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ORIGINAL COMMUNICATIONS.

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THE OFFENDING MIDDLE TURBINAL.*

BY EDWIN PYNCHON, M.D., CHICAGO.

Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat College.

Our text-books usually have but little to say regarding the middle turbinal. In a large majority of the text-books which I have consulted no particular attention is given to the middle body, all chronic enlargements of either one or both bodies being classified under the general blanket expression, "hypertrophic rhinitis," which term is furthermore frequently made to include stenosis due to septum deformities. In anterior enlargement of the middle turbinal there is often no disease thereof per se, it being simply an overgrowth, and the trouble produced depends solely upon the fact that it is occupying a space relatively too small for its bulk. In other cases the enlargement consists of a bony hypertrophy or hyperplasia which is rarely intensified to any material degree by hyperemia or inflammatory swelling, though, owing to its abnormally close proximity to the septum the slightest amount of engorgement may cause contact pres-All the turbinals should have room for physiologic engorge-As the requirements of the middle turbinal in this respect are slight, a space of about one-sixteenth inch between it and the nasal septum is sufficient. Hypertrophy of the anterior end of the middle turbinal is sometimes complicated by the presence of some growth upon or deflection of the cartilaginous septum, or by ridges or spurs at the lower border of the perpendicular plate of the ethmoid, which may have been causative in the production of the co-existing turbinal hypertrophy.

^{*}Read by title before the Western Ophthalmologic and Oto-Laryngologic Association at New Orleans, February 10, 1899.

In a comparatively small per cent of cases the anterior enlargement of the middle turbinal consists of a polypoid degeneration, and is often associated with either nasal polypi or sinus disease. In a few cases a hyperplasia of the soft tissues is met with, described as mucoid hypertrophy by Browne, which often extends to the under surface of the turbinal. It is probably an early stage of polypoid degeneration and can be easily removed with the cold snare or destroyed by the electro-cautery.

A pronounced enlargement of the anterior end of the middle turbinal, in addition to causing an occlusion of the superior meatus and attic of the nose, may seriously obstruct the middle meatus, and in some cases may extend downward so far as to press upon or into the inferior turbinal. Obstruction of the middle and superior meatuses interfere with the ventilation and drainage of the nasal sinuses and may thus cause sinus disease just as obstruction of the opening of the Eustachian tube will cause tubal catarrh. In event of the presence of a diseased condition of any sinus no hope for improvement can be reasonably entertained until its exit is made free and unobstructed. Even if no sinus disease occurs the middle turbinal which is sufficiently enlarged to obstruct the passage of air to the nasal attic thereby impairs the ventilation and drainage of that portion of the nose, so as to prevent the normal evaporation of the nasal secretion therein, which consequently thickens and discharges into the post-nasal space, constituting a so-called post-nasal catarrh.1 This in turn with vocalists may induce recurrent laryngitis, characterized by recurring attacks of hoarseness, and with all thus afflicted is liable to cause either catarrhal bronchitis or catarrhal gastritis, which may be succeeded by auto-toxemia as follows:

a. Chronic catarrhal bronchitis leads to an inflammatory thickening of the membrane lining the air-cells and thus, as well as through the presence of the incidental catarrhal secretion, makes more difficult the osmotic purification of the blood.

b. Catarrhal gastritis causes fermentative indigestion, with flatulence, malassimilation and constipation.²

Another effect of nasal-occlusion is to cause alternate rarefaction and condensation of the air in the nose, thereby producing a general hyperemia of the whole fossa, including the connecting sinuses, and particularly of the post-nasal space. In this way Eustachian tubal catarrh may be caused which leads to aural disease. By occlusion of the attic of the nose the smell is also impaired.

Headache is often complained of in cases wherein the middle turbinal is enlarged so as to cause pressure, it being one of the most annoying symptoms present. Roe, in a paper upon the subject of Nasal Headache, says: "In the nose the irritation is caused by some abnormal condition which brings together parts that normally should be separate and produces more or less pressure between them. When one wall of a nasal passage comes in contact with its opposite wall sooner or later the resulting irritation causes a sensitiveness and thickening of the tissue of the latter side. Headache when persistent is due to a constant pressure between parts that are found to be bony or composed of more or less firm tissue; while in the case of transient pains the pressure is between soft tissues, and on the subsidence of the engorgement the parts separate and the pain disappears."

Harrison Allen may also be quoted, who says in reference to nasal headache, "special stress must be laid upon the compression of the anterior end of the middle turbinated bone.4" As only one side is usually affected the headache is generally unilateral, being located principally upon the same side as is the enlarged turbinal, and is described by the patient as being neuralgic. There is a sameness in the character of the headache as present from time to time.5 Such headache is often diminished after an application of cocaine, and even after the use of a soothing, oily spray, while on the other hand it is intensified by probe pressure. The improvement after the use of cocaine gives assurance of the nasal origin of the headache. This form of headache increases with each attack of coryza and often seems to originate in or about the eye.

Of course it will be recognized that compression of the middle turbinal can be as much due to growths upon the opposing portion of the septum as to an enlargement of the turbinal itself. In an earlier paper I called attention to the presence of anterior soft hypertrophies upon the nasal septum as being causative of headache, Anasal headache is generally worse in the morning and is aggravated by physical exertion. The presence of polypi is often the cause of headache, though if both nares are thus affected the headache will generally be bilateral instead of being unilateral.

Campbell, in considering the association of obstructed nasal respiration and headache, observes that "the resulting mouth-breathing interferes with proper aeration of the blood and thus helps to induce toxic headache." Loss of memory, insomnia, mental hebetude and melancholia are among the ulterior effects due to the persistent headache, or to the auto-toxemia.

A nasal headache is sometimes observed in combination with atrophic rhinitis. More properly speaking the headache is generally due to an enlargement of the middle turbinal while there is present an atrophic condition of the inferior turbinal. In such case, though, if proper cleansings are neglected, the retained atrophic secretions may develop an ozena or sinus disease from which the headache may also arise. In co-existing atrophy and hypertrophy the correction of the hypertrophy improves the atrophy, hence a turbinotomy operation upon a hypertrophied middle turbinal will often tend to improve an atrophy of the inferior turbinal on the same side, though the operation should be followed by several months regular after treatment of the atrophied body. In fact the restoration of the normal ventilation and drainage of the nasal attic and adjacent sinuses, in combination with the correction, so far as practical, of all existing deformities of the nasal septum, constitute a large part of the most successful line of treatment in atrophic rhinitis.

Hypertrophy of the anterior end of the middle turbinal is one of the most common causes of hay fever and asthma, and is probably a frequent factor in the cause of hydrorrhea. Cough is also frequently present and its importance as a symptom of nasal trouble has been fully investigated by John N. Mackenzie.9 These special neurotic manifestations are proportionate to the general neurotic tendency of the patient. The uric acid diathesis and other systemic conditions may also call for recognition.

Walsham (Nasal Obstructions, p. 72) in considering this form of turbinal enlargement, says: "The pressure exerted by the hypertrophied tissue upon the circulation within the nose is apt to cause obstruction to the return of blood from the capillaries and minute veins of the skin, thus producing erythema and acne of the nose and face. The hypertrophy may also lead to dry catarrh of the nasopharynx and pharynx (pharyngitis sicca), hence it is often for throat trouble rather than for nasal obstruction that patients seek relief." MacDonald gives considerable attention to middle turbinal hypertrophy and the attending train of symptoms.

Anterior hypertrophy of the middle turbinal is essentially different from a hypertrophic condition of the inferior body. The difference is observed in structure, in appearance, in symptoms, in causation, in effect and consequently a difference must follow in treatment. While the two conditions are often found associated it will not be amiss for diagnostic study to regard them separately and in tabular

form as follows:

COMPARATIVE SYMPTOMS.

HYP. INF. TURB. Rarely involved.

Often presents irregular- Nasal septum. Rarely.

Rarely.

Climatic exposures and Causation. recurrent coryzas. Considerably increased Blown from ant. naris.

Easily indents. But slightly annoying.

Rare. Rarely observed. Not marked. Rarely affected.

Bony framework.

Touches plane septum. Occludes adjacent meatuses.

Catarrhal discharge.

Probe pressure.

History of headache. Impaired smell. In hay fever. Vision.

HYP. MID. TURB.

Generally involved. Generally regular.

Often with pressure. Often sup. sometimes mid. Generally congenital.

Slightly increased. Goes to p. n. space. Rare indents. Excites neurotic manifestations. Frequent and unilateral. When hyp. is pronounced Often observed. Often affected.

While there is an unanimity of opinion as to the advisability of doing a turbinotomy in case of polypoid degeneration or sinus disease, there has not been much active treatment extended to a middle turbinal guilty of only simple enlargement. J. A. Stucky, in THE LARYNGOSCOPE for April, 1897, reports several cases in which marked benefit was derived from this operation in such condition. I have likewise operated several times in cases of this nature, and with pronounced benefit to the patient. Delevan, in a paper entitled Hypertrophy of the Osseous Structures of the Turbinated Bodies, 10 says: "Removal of the turbinated bone itself, entire or in part, is therefore essential. As to the propriety of the operation there is no reason anatomically or surgically speaking why it should not be performed." This writer next quotes Morell Mackenzie as follows: "I have myself frequently removed portions of the turbinated bones without seeing any evil result follow, and it appears to me extremely doubtful whether any bad effects could result from the removal of a portion of one of them."

The operation of turbinectomy of the inferior turbinal has been introduced by Carmalt Jones for the relief of nasal stenosis, and is too often done as a quick and easy method of providing breathing space in cases wherein the septum is at fault, the defects of which should instead be surgically corrected, thereby leaving intact the invaluable turbinal which is so essential in nasal respiration. Turbinectomy implies practically a total removal of a turbinal, while the operation of turbinotomy, being considered in this paper, implies only a partial removal of the middle turbinal, primarily to restore the normal ventilation and drainage of the nose, and incidentally to correct both contact and pressure which are so productive of nasal reflexes.

In paper previously cited Harrison Allen says: "The treatment

of nasal headache is in no way modified from that which I have advocated for the treatment of chronic nasal catarrh. The diseased structures must be removed thoroughly and as rapidly as is consistent with all the facts and in obedience to the general principles of surgery."

In two excellent papers Snow (11 and 12) emphasizes the necessity of surgically obliterating all points of intra-nasal pressure. He thinks "that from 70 to 80 per cent of all cases of headache of hemicranial order are due to removable causes located within the nasal passages or adjacent air spaces." While this paper is addressed particularly to conditions of enlargement of the middle turbinal, the treatment in all cases should of course extend to all other pathologic processes found in the nose or naso-pharynx with the object of causing those parts to assume, as nearly as possible, the form and character of the ideal standard.

Not being satisfied with the method usually adopted of biting off piece after piece with some form of snipping forceps, with the assistance of shears and snare, thereby making a rough and uneven stump, I devised the following method of operating. In simple anterior hypertrophy of the middle turbinal the form may consist of either too large a thin scroll, or the scroll may be of usual length and of too great thickness. While the first form impinges upon the lumen of the middle meatus, as well as upon the septum, and often occludes the superior meatus, the latter form leaves a free middle meatus and only presses against the septum, though the contact may be of sufficient extent to practically occlude the anterior opening of the attic.

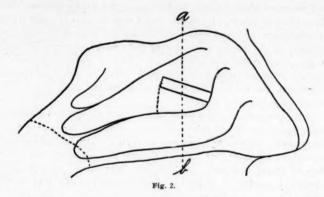
My method of procedure consists in first using the guarded trephine shown in figure 1, which is operated by an electric motor. This trephine differs from previously used forms inasmuch as the guard is



Fig. 1. Guarded Trephine. (% size.)

provided with a flat and very thin guide which projects one-fourth inch or more beyond the point of the trephine, and serves first, as a means of entering the narrowest space required; second, as a director to guide the trephine; and third, as a guard to prevent too deep entrance, or injury of parts which should not be touched. The shank

of this attachment is also one inch longer than is the shank of the style in general use. With this instrument, after elevating the tip of the nose, I make a horizontal groove in the turbinal, as shown in figures 2 and 3, figure 3 being a vertical cross-section of figure 2 at the dotted line a b.



In these figures the anterior end of the left middle turbinal is shown abnormally large. The core produced by the trephine is about three-quarters of an inch in length and is detached by giving a slight up and down motion at the distal end of the instrument after the tre-



phine has entered as far as it will go. These up and down motions should be repeated two or three times while the revolution of the trephine is still being continued by the electric motor. In my early cases of the second form described I allowed the operation to stop at this

point, trusting to cicatricial contraction in order that a slight space should be provided between the turbinal and the septum. While some improvement was secured the results were not so favorable as in later cases wherein I continued the operation by next introducing one blade of an Ingal's nasal shears in the hole made by the trephine, and the other blade beneath the turbinal in the middle meatus. (See dotted line in figure 3.) In this way a section is easily made which is afterwards removed with a cold snare, the same as is a polypus, by pressing the loop as far backward and upward as it can be made to go. (See dotted line in figure 2). Thus a good-sized piece is quickly removed with but little pain under 20 per cent cocaine anesthesia, and the resulting wound is smooth and quite even. The hemorrhage has been slight.

In the process of healing some shrinkage of the untouched portion takes place, and at the same time granulations are thrown out upon the operated portion, so a new end is created, which becomes so well formed as, at a later date, to often deceive the examiner, and cause him to doubt that such operation has been done. The guarded trephine I employ is of course equally as serviceable in operating upon a growth upon the septum as in operating upon a turbinal, in which case the guard effectually protects the adjacent turbinal against injury.

Columbus Memorial Building.

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FIBRINOUS RHINITIS.*

BY D. J. GIBB. WISHART, M.D., TORONTO, CANADA.

Professor of Laryngology, Trinity Medical College.

The occurrence during last summer and fall of a series of cases, which apparently were fair examples of what has been described as fibrinous rhinitis, and certainly were the first to fall under my own notice, and a desire thereby to add a little if possible to the small amount of knowledge we possess upon this interesting subject leads me to present this paper.

Fibrinous rhinitis is an affection described under a variety of names-such as membranous rhinitis, croupous rhinitis, pseudomembranous rhinitis, streptococcic rhinitis, laminated fibrino-plastic rhinitis, and by Bretonneau and other writers in France, as Coryza Couenneux. It was first mentioned about twenty-six years ago by Henock. The best description of the disease that I can find in the most recent text-books is that contained in Walsham's "Nasal Obstruction." It is as follows: "The nasal cavities are obstructed by false membranes of a grayish-white color and fibrinous consistency, adhering to the swollen and reddened mucous membrane, especially that covering the septum and turbinal bones. The false membrane adheres more or less firmly and leaves a bleeding surface when forcibly removed, or it may come away easily without any bleeding. Cocaine does not cause a shrinking of the swelling; no membrane is discovered in the fauces. The glands in the neck are not enlarged, and no constitutional symptoms are present. The patient is most likely a child. It usually begins without apparent cause as an ordinary cold in the head, and may be ushered in by headache and slight fever, which, however, quickly subside. The urine is not albuminous, and the disease abates in a couple of weeks, and is not followed by paralysis."

The last extensive paper upon this subject in American and Canadian literature is that of Ravenel², of Philadelphia, published in 1895, wherein he collects reports of seventy-seven cases. As a result of these observations, Ravenel drew the conclusion that "patients suffering from fibrinous rhinitis were always a possible source of contagion, and should be isolated as carefully as those affected with the more common types of diphtheria."

^{*}Read before the Ontario Medical Association, Toronto; June, 1899.

I find, however, that such eminent authorities as Bosworth in America, and Lennox Browne and Walsham in England, express themselves in their recent publications to the effect, that fibrinous rhinitis is a benign disease distinct from diphtheria. It is true that Bosworth states that all these cases should be isolated, but where is the need of isolation, with all that is implied thereby, if the disease be benign. Bosworth⁸ states that "croupous or fibrinous rhinitis is characterized by a deposit of fibrinous exudation, which is superimposed upon the epithelial layer, and does not involve the deeper tissues. The disease undoubtedly is frequently caused by, or follows operations in the nose, as after the galvano-cautery. In children the exudate forms a soft, thick almost granular mass, very friable, which in some cases can almost be wiped from the mucous membrane in small fragments. The treatment appropriate to diphtheritic cases is most often used with benefit in these cases. The patient should be isolated at once."

Walsham⁴ says: "Fibrinous rhinitis is rare. The affection is sporadic, and not contagious. In bacteriological examinations, the Klebs-Löffler bacillus is not found, but the staphylococcus pyogenes aureus, or a staphylococcus resembling this organism may be present. By some observers fibrinous rhinitis is believed to be merely a mild form of nasal diphtheria, since in some supposed cases of the affection the Klebs-Löffler bacillus has been discovered in the membrane. It is possible that these particular cases were mild forms of nasal diphtheria, fibrinous rhinitis being a benign disease distinct from diphtheria."

Lennox Browne⁵ says: "Recognizing there is such a disease as diphtherial rhinitis, there is also a form of nasal inflammation characterized by exudation of membrane which, although probably bacterial in its nature, holds a subsidiary position in pathology analogous to that of non-bacillary-membranous laryngitis. Risk of contagion is remote. Cultivation and innoculation experiments give negative results. The neighboring glands are not involved and no one has found the Klebs-Löffler bacillus."

On the other hand, Haviland Hall⁶ in "Albutt's System of Medicine," says: "In the majority of cases the disease is the result of diphtheritic infection, and in some the general symptoms are so slight that the true nature of the disease is likely to be overlooked. It is only after a careful bacteriological investigation with a negative result, that the possibility of any cause other than diphtheria should be admitted, and until such examination is made the patient should be isolated. In the non-diphtheritic cases have been found a coccus

resembling the staphylococcus pyogenes aureus, but differing from it by its extraordinarily quick growth, and by the duration of its power of infection, the streptococcus aureus and the pneumococcus membranous rhinitis occasionally occurs in the new born infant, usually in connection with septicemia in the mother."

Here then we have very opposite views expressed by leading authorities upon a subject of great importance, namely, the contagiousness of one form of a disease, which is looked upon with dread by physician and community. All of the cases which I here record occurred within a period of about fourteen months, and must be considered in my opinion simply as cases of diphtheria, where the type was of an unusually mild character. These cases are as follows:

Case I. Occurred in the writer's family. On July 17th, 1898, M. W., aged six years, complained of stuffiness of the left nostril in the evening, but was quite well and slept soundly and was not examined till the day following. The left nasal chamber was then found completely filled from front to back with a grayish-whitish fibrinous semi-transparent membrane. It was removed entire by injecting cocaine beneath it and by the use of a probe. The membrane was attached to the septum anteriorly and to the inferior, and perhaps to the middle turbinated bones as far back as the posterior nares, and when removed left a slightly bleeding surface. The throat showed no signs of membrane except two faint white lines behind the right posterior faucial pillar. The pulse was 76 and the temperature normal. After the removal of the membrane finely powdered iodoform was dusted on to the surface. The membrane was examined the same day by Professor Anderson, who found numerous polynuclear leucocytes with fibrin, but no bacteria. Cultures were also made, which showed abundance of staphylococcus albus, but nothing else. The membrane did not reform to any appreciable extent, and did not invade other parts. Iodoform was blown in daily, the child was not isolated and was not ill in any way, and the nose was healed in about a week.

M. E. W., aged five years, sister of No. 1, was examined accidentally on the evening of the 29th of July, 1898, twelve days following the above, and a membrane was observed on the posterior wall of the pharynx; which was examined also by Professor Anderson. Culture proved this to contain Klebs-Löffler bacilli. She was isolated and antitoxin promptly administered. The glands were slightly enlarged and there was a slight extension of the membrane. Recovery ensued within a week. No paralysis followed, but the anemia was

very marked. The nose was not involved. Neither of these children were exposed to contagion in any known way and no other members of the family were affected.

Case II. August 25, 1898, H. W., aged nine years, was brought to the office by her mother who stated that she was not sick, but that she complained of some stuffiness of the nose, which she thought might be a return of adenoids for which an operation had been performed in May. On inquiry it was found that she had had a sore throat about ten days earlier, which had been pronounced by a physician non-diphtheritic, and from which she had recovered. The one side of the nose was found completely blocked with a membrane similar to that described in No. 1. Removal left a bleeding surface. The child was prmptly referred to the Isolation Hospital, and the Klebs-Löffler bacilli were found. The membrane spread out to the pharynx. Recovery ensued, but over six weeks passed before the bacilli disappeared.

Case III. In the early part of 1898, M., an infant of a few days old was referred to me by Dr. McMahon. The child was found to have difficulty in nursing, as its nose seemed to be blocked. On examination I found one side of the nose filled by a fibrinous membrane. The membrane was examined at the health office, and the Klebs-Löffler bacillus found. There was an extension of the membrane and no other symptoms of diphtheria were observed.

Case IV. H. R., boy aged five, in the practice of Dr. Fotheringham, developed a choked nose in November, 1898. The nasal chamber was completely occluded by a whitish membrane. The Klebs-Löffler bacillus was found in abundance. The membrane remained present for fourteen days, and the bacillus was found on each of the several examinations.

There was no clinical evidence of diphtheria at any time, and there was no extension of the membrane. The remaining residents of the house, father, mother and maid each developed typical pharyngeal diphtheria with all the clinical symptoms, the maid's case being of a severe type with faucial paralysis and a peripheral neuritis of the anterior tibials following.

The following cases occurred in my practice in the Hospital for Sick Children:

Case V. F. J., aged nine, was operated upon in September, 1898, for deflected septum. On the fourth day thereafter one nostril was occluded by a fibrinous membrane. Bacteriological examination showed the presence of staphylococci and the Klebs-Löffler bacillus. The child was isolated for nine days and there was no extension of the membrane, and no delay in the healing of the wound.

Case VI. W. R. C., aged four, was admitted in February, 1898, for anemia and epistaxis. The child proved to be hemophylic. Some months after admission both nostrils were found to contain a fibrinous membrane, which on removal left a bleeding surface. This membrane recurred persistently, and its presence was attended by attacks of epistaxis. Repeated bacteriological examinations were made, but no Klebs-Löffler bacilli were ever found. The child was not isolated, the membrane was removed, and various powders, styptic and anti-septic, were applied. The membrane finally disappeared, and the child was discharged in the following September.

Case VII. H. P., boy aged ten, entered the Hospital for Bell's paralysis on December 30, 1898. On the 27th of January his nose was observed to be sore and bleeding, and high up in the right chamber a whitish membrane was discovered. This was found to contain staphylococci only, no other symptoms were observed and the pa-

tient was discharged on the 9th of February.

As will be seen these seven cases give examples of a benign membrane in two cases, and of a membrane containing Klebs-Löffler bacilli in five cases. Again in two cases, one of them with a benign membrane there is a clear history of the infection of these brought into contact with the patient. The appearance of the membrane varied, being grayish and viscid in No. 1 and white and somewhat friable in No. 6. In no case could the membrane be removed without leaving some slight bleeding point, and in no case except in No. 6 was the bleeding very marked. In case No. 1 the membrane was the most typical I ever saw, and careful examination proved nothing to be present but staphylococcus and yet the only child whith which she was brought into contact, developed pharyngeal diphtheria. In case No. 3, which was examined by a very accurate observer, the membrane was typical, constitutional symptoms were absent, and yet the patient spread true diphtheria to three persons. Of the hospital cases, only one was isolated, diphtheria, however, was epidemic in the hospital in the summer of 1898, and an occasional case appeared in the wards throughout the winter. The greatest watchfulness being required to prevent an outbreak. These two cases, therefore, would appear to have suffered from fibrinous rhinitis, owing to their exposure to diphtheritic contagion. I have already presented the views of our leading authorities, and now present as full a list as I have been able to obtain of cases recorded since 1895, of which there are ninety-one, making with my own a total of ninety-eight cases.

F. J. Dixon reports two cases, in one of which cultures showed micrococcus albus liquefaciens, and bacillus termo of Vignal but no others.

Hennig⁸ reports eighteen cases, which are fairly typical, and after a careful comparison concludes, that fibrinous rhinitis is not a disease sui generis, but is intimately related in a clinical and pathologico-anatomical manner to diphtheria. That its etiology is obscure, but that it is not due to Löffler's bacillus.

H. Lambert Lack⁹ reports thirty-six cases, forming two and a half per cent of all the children attending hospital practice. The results of bacteriological examinations carried out in thirty-three cases showed the true Klebs-Löffler bacillus constantly present, generally in pure culture, sometimes mixed with pyogeniccocci. It was usually of the large variety, and its identity was proved by its morphology, by its growth in various culture media. It was shown to be of full virulence in animals, to produce virulent toxins, and to be neutralized by anti-toxins, to live for several months in culture media, and by its vigorous growth to crowd out other organisms if present. A thorough axamination proved a previous history of diphtheria in connection with one case only. The disease gave rise to itself in nine cases in four families, and often to mild sore throat, twenty-five cases out of eleven families.

John Middlemass Hunt¹⁰ reports three cases presenting the clinical characters of fibrinous rhinitis, but all of them so related to diphtheria as to make him thoroughly distrust any case based on clinical evidence alone. In two of these there was a bleeding surface left after removal of the membrane. In two cases true pharyngeal diphtheria occurred among those associated with the patient, and the other case developed a severe attack of diphtheria two weeks later followed by extensive paralysis. The Klebs-Löffler bacillus was found in the only case submitted to bacteriological examination.

Richard Lake^{II} reports one case with a white gelatinous mass, filling entirely the cleft between the septum and the inferior turbinate bone. Bacteriologically no organisms but staphylococcus pyogenes aureus were found. The case was lost sight of before a cure was affected.

Price Brown¹² reports one case with a large white patch of cartilage-like membrane filling the whole cavity and adherent to the septum. It had been noticed by the patient for about two weeks. On removal it left a more or less abraded surface. There were no indications of diphtheria. The membrane was made up of fibrin and leucocytes. No bacteriological examination was made.

Meyer¹⁸ reports twenty-two cases in which he had made bacteriological examinations with inoculation experiments, and found in nine cases streptococci only, and in the thirteen others the Löffler bacillus in virulent form. In their clinical course the cases with diphtheria bacilli showed no difference from those without. Gerber¹⁴ reports seven cases where virulent diphtheria bacilli were found. In other cases, the number not being given, streptococci, staphylococci, diplococci, etc., were found without the Klebs-Löffler bacillus. Gerber considers that the clinical pictures may be identical while the diseases are different, and that the difference between this and true diphtheria is one of degree only, dependent upon the vulnerability of the mucous membrane.

Gerber and Podack¹⁶ report five cases of primary fibrinous rhinitis in which the virulent Klebs-Löffler bacilli were present. They emphasize the great danger of infection in these cases on account of the relatively slight symptoms, and the chronic course, and insist on strict isolation.

Pluder¹⁶ reports six cases of rhinitis fibrinosa diphtherica, of which five were examined bacteriologically. Klebs-Löffler bacilli were found in all, while in one case there occurred extension to the pharynx—pharyngeal diphtheria—and more or less diphtheritic severe sore throat in persons in contact with the patient. He considers that but for the fact that there is no known case of fibrinous rhinitis which has been followed by paralysis, the diseases might be considered as identical.

In this series of cases we have the Klebs-Löffler bacillus present in sixty-nine out of a total of ninety-eight cases. These are not the observations of one man, but of a number, and most of the cases bear the ear-marks of careful observation. Looked at from the point of view of these results are not the conclusions of Ravenel in 1895 amply borne out. The cases of fibrinous rhinitis are rare, and the general practitioner who meets with a case will look up the subject in one of the recognized authorities, and acting upon their conclusions, will be apt to leave the case without isolation. This is too dangerous for the community and not justified by what we now know of the disease.

With regard to the frequency with which this form of disease appears, I feel convinced that the observations of Potter and Lambert Lack are not borne out in the experience of others. In my own case, in an experience of six years in charge of an intern and extern nose and throat clinic in the Hospital for Sick Children, not one case of fibrinous rhinitis was observed till those above recorded appeared. This long experience without a case and then the sudden appearance of a comparatively large number only goes to prove in my mind that fibrinous rhinitis is but one of the forms or phases of diphtheria due to an attenuation of the bacillus. It is assumed by some observers that the membrane which is now and then found in the nose after operative procedures is identical with that found in fibrinous rhinitis.

To this I would demur. The appearance is not at all the same. The history of the case in itself is a guide if the physician has occasion to suspect the nature of the deposit present. I have in many instances observed this membrane-like eschar after the galvano cautery.

It would appear that observers of this interesting disease thus fall readily into three classes:

- Those who consider diphtheria and fibrinous rhinitis to be distinct diseases.
- Those who consider there is but one disease, but that the degree of contagiousness varies, so that we may safely neglect to isolate such cases where no clinical and bacteriological evidences of diphtheria are to be found.

Those who would isolate every case.

In view of the fact that cases possessing a membrane bacteriologically innocent have apparently communicated diphtheria to others, are we not warranted in thinking that the Klebs-Löffler bacilli were really present somewhere. If so, we are forbidden thereby to abandon the isolation of these cases until a series of pacteriological examinations have been made, which practically means until the disease itself has disappeared.

In conclusion, we may fairly consider that the accumulated evidence proves the following points:

- I. Fibrinous rhinitis and diphtheria are not distinct diseases.
- All cases of fibrinous rhinitis need the same precautions as to isolation that diphtheria requires.

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NOTE. Subsequent to the reading of this paper, the writer has received a copy of "Non-Diphtheritic Pseudo-Membranous Rhinitis," by Dr. Price Brown, in which the views expressed are at direct variance with the conclusions of my paper.

ACUTE SEPTIC RHINITIS OF CHILDHOOD.

BY LEWIS S. SOMERS, M.D., PHILADELPHIA, PA.

Various classifications of the acute inflammatory affections of the nasal mucosa have been made, but that devised by Tissier¹ presents the most valuable features, being based on causal factors. He divides acute inflammations into three classes; first, simple rhinitis due to atmospheric changes; second, membranous rhinitis, due to streptococci, while the third class is characterized by the formation of pus and designated as purulent or septic rhinitis, which he says is probably due to the gonococcus. Septic rhinitis occurring a short time after birth in a few cases, may be due to gonorrheal infection from the vaginal tract of the mother, but in this country at least, the majority of cases result from the implantation of the ordinary pus organisms and rarely from specific infection.

The following case is typical and illustrates the chief features of the disease: W. M., male, aged four years, was first seen on July 31st, 1897, with a history of purulent discharge from the nostrils of but a few days duration and soreness of the nose and upper lip. His mother stated that he had been well from babyhood until the present time, with the exception of pertussis during the past winter, but which had entirely disappeared. Without apparent cause his nose felt "full" and there was a muco-purulent discharge, rapidly increasing in amount, then becoming profuse and purulent and vesicles appeared on the upper lip, from the irritating secretion flowing over it. The lip and nasal vestibule were covered with small pustules and vesicles, while examination of the nasal chambers revealed the presence of a large amount of yellow pus, covering the anterior two-thirds of the turbinal tissue and septum and extending from the floor to the middle portion of the olfactory region. The epithelial investure of both septum, inferior, and middle turbinals, was necrosed in part and of a white color, in contradistinction to the inflammed area adjacent. There was effusion of serum into the deeper tissue layers and the mucous membrane of the floor and dependent portion of the turbinals, presented a "boggy" appearance.

The condition, to a great extent, resembled a violent form of rose coryza, but with greater destruction of tissue and the discharge of purulent matter, instead of serum as in the latter affection. There was also phlyctenular conjunctivitis, dependent upon the nasal inflam-

mation. Constitutional symptoms were not well marked; partial dyspnea from nasal obstruction being most prominent and there was slight elevation of temperature; the general symptoms bearing no relation to the severity of the nasal condition. The parts were cleansed with an alkaline, antiseptic solution, then with dilute peroxide of hydrogen and the nose sprayed several times daily with the alkaline solution, to which was added a small amount of carbolic acid. This was used for two weeks when the affection disappeared, and except for the conjunctivitis, there were no further complications.

Infantile purulent rhinitis, especially among the lower classes, is frequently of syphilitic origin, while in older children many factors may be concerned in the etiology, and although the cause may differ in various cases, the pathological changes are constant, varying only with the intensity of the inflammatory reaction and extent of pus producing surface. Insanitary surroundings play a prominent part in the etiology, as the affection is rarely seen in children with good hygienic environment, but occurs most frequently among the neglected children of the lower classes. Traumatism, such as a blow on the nose or the inhalation of irritating vapor, will also produce the disease, but only when tissue destruction results or impairment of local vitality occurs to such an extent that infection can take place. In all cases, staphylococci or streptococci are found, and while other organisms may be associated, yet they influence the affection only to the extent of producing further complications. Occasionally septic rhinitis may follow the acute infectious diseases, such as scarlet fever, etc., especially when convalescence is prolonged and the constitution broken down by the effects of the primary disorder, and more rarely it may be due to exaggerated coryza, or simple catarrh, when the latter is of unusual severity or long continued. Fougeray2 reports a case in an infant, thirteen months old, in which bacteriological examination revealed the presence of the staphylococcus albus and aureus; the affection disappearing by the use of 10 per cent mentholated oil sprayed into the nares and pharynx several times daily.

The symptoms are both local and general, the former varying with the extent of the inflammation, which as a general rule is limited to the mucous membrane and does not involve the deeper tissues. The symptoms resemble to a certain extent a severe attack of coryza, the membrane is inflamed with loss of the epithelial cells in limited areas, the turbinal tissue and septum are alike affected and the dependent parts are swollen from excessive outpouring of serum, causing local areas of edema. The lip and ali nasi are irritated

from the discharge and may be inflamed, eroded or covered with vesicles and pustules. The discharge, while at first serous, rapidly becomes purulent, and at the end of the first day is produced in considerable amount and becomes fetid and greenish-yellow in color, These symptoms last from five to six days, then cease when appropriate medication has been applied, to be replaced for a few days longer with moderate mucous secretion. When the affection occurs in children recovering from exhausting illness it may vary in the symptom complex from that described, and instead of the purulent discharge ceasing by the first or second week it assumes a subacute form, lasting for several months. The general symptomatology amounts usually to a moderate elevation of temperature, increase of pulse rate, with frontal headache and anorexia. When the turbinal swelling becomes excessive, with consequent pressure on the septum, aprosexia occurs; the child becomes dull and unable to concentrate his attention on any definite subject, this, however, lasts only during the few days when congestion is marked.

The history of the rapid onset, the result of an objective examination and the presence of a bilateral profuse, purulent discharge renders the diagnosis comparatively easy in the majority of cases. Of major import, however, is the differential diagnosis from other affections which may simulate septic rhinitis; the more prominent being nasal diphtheria, membranous rhinitis not dependent upon the Klebs-Löffler bacillus, syphilis and a foreign body or rhinolith. Nasal diphtheria may exist independent of any other evidence of this disease in the upper respiratory tract and without constitutional symptoms. Subjectively resembling septic rhinitis by the presence of bilateral muco-purulent discharge with excoriated lip and nasal alæ and more or less marked nasal obstruction. The chief points in making the differential diagnosis are, that in diphtheria the nasal discharge is less, is not bright yellow in color, but contains mucus and shreds of false membrane. Objectively, the mucosa and especially that lining the floor, is covered with membrane which is not removed by spraying, but requires considerable force to be detached from the underlying mucosa. Of still greater importance in correctly estimating the nature of the affection, is the bacterial examination, the presence or absence of the specific organisms, determining in conjunction with the other symptoms, the character of the affection.

True membranous rhinitis, non-diphtheritic in character, may be mistaken for septic rhinitis, should the secretions of the former become profuse and purulent, but usually they are scanty and mucoid;

nasal examination clearing up any doubts that may exist. Hereditary syphilis involving the nares and presenting little evidence of the disease elsewhere, is especially liable to be confounded with other forms of nasal suppuration. In the former affection it will be found that the discharge is of long duration, there is considerable odor and greater destruction of tissue than occurs in septic rhinitis. It is also very infrequent in syphilis not to find some other evidence of the affection and the symptom-complex, with the parental history will enable one to make a correct diagnosis. Purulent rhinitis may be consequent upon the presence of a foreign body or rhinolith in the nose. In all cases of nasal suppuration a thorough examination should be made to eliminate the presence of a foreign body, and as the majority of the cases of the latter exist on but one side, its presence can be readily determined.

The ultimate outcome of the suppurative process is very favorable if promptly treated, but in neglected cases complications occur and even "death from pyemia" results or a serious form of septicemia ensues, followed by long and tedious convalescence.

The treatment should be directed to the improvement of the general condition, the restoration of the patency of the nasal chambers and antisepsis. Tonics and alteratives as best suited to the individual case and the removal of the cause as far as ascertainable should be advised; if syphilis be suspected, mercury should be used, while in nearly all cases the child improves by the use of syrup of the iodide of iron. The nose and throat should be sprayed with an alkaline, antiseptic solution, then with dilute hydrogen peroxide, until all pus has been removed. The parts are then covered with a spray of mentholated oil (1 to 2 per cent), or an ointment composed of yellow oxide of mercury (1 grain to the ounce of lanoline) and not disturbed for several hours, when the child should at frequent intervals use the alkaline solution, to which has been added one grain of carbolic acid to four ounces.

Dedieu⁴ has been successful in treating this affection by irrigating the nasal chambers twice daily with a tepid solution of boric acid, 5 per cent, resorcin ¹/₂ to 1 per cent, and permanganate of potassium 1:1000. The patient uses a syphon, bends forward and breathes with the mouth open. In connection with this he uses an ointment composed of boric acid ten parts and vaseline fifty parts, a small amount of which is placed in the nostril four or five times daily, and when the purulent discharge has ceased the nose is sprayed with a ¹/₂ per cent solution of nitrate of silver. Although this treatment will be productive of fair results generally, yet it is dangerous to

use irrigation in any suppurative nasal condition, the liability of aural infection being so great that it is far better to spray the nose.

When nasal obstruction is persistent and prevents the child feeding, it becomes important that the patency of the nasal chambers be obtained and kept so. This is best done by painting the turbinals with a 1 to 2 per cent cocaine solution, to be followed with a $^{1}/_{2}$ per cent solution of antipyrine. A small amount of cocaine must be used and applied only to the areas of greatest enlargement, as serious consequences may follow the use of solutions of greater strength.

3554 North Broad Street.

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Nasal Bacteria; The Relation they Bear to Disease—D. Braden

KYLE-Journ, Am. Med. Assn., June 10, 1899.

In the examination of a great number of cases bacteria were found both in the cases of rhinitis and in those having apparently normal nasal mucous membrane.

The greatest number of germs were found in the cases of atrophic rhinitis. The bacteria varied according to the surroundings of the

individual.

The bacillus of tuberculosis was found on healthy nasal mucous membrane after the individual had been on the dusty street. The bacillus of diphtheria was found after the individual had passed

through the diphtheritic ward of a hospital.

In speaking of the various forms of catarrhal inflammation the author concludes that bacteria have an important relation to the inflammatory conditions present, but that their etiological relation is secondary and not causal, and that before the bacteria found access to the mucous membrane there was some alteration in the epithelial surface brought about either by external or internal irritants, which lowered the physiological resistance of the individual cells.

Andrews.

PARASITIC AFFECTIONS OF THE PHARYNX.*

BY ELLET ORRIN SISSON, M.D., KEOKUK, IOWA.

Pharyngomycosis, while not considered a common affection, has been of late years more generally observed, the reason for this probably lying in our increased facilities for making a diagnosis in suspected cases. Reports from the dispensaries of our large cities, New York in particular, show a large number of such cases. The investigations of V. Jaksch1 go to prove that mould and yeast-fungi are very seldom seen in this locality in health; when they occur it is an accidental constituent, probably introduced with the food. In disease, however, their presence is frequent. Fission-fungi, on the other hand, are met with in great number and variety in the healthy saliva. Miller2 has cultivated over fifty different fungi obtained from the mouth. Benign mycotic affections of the oral and pharyngeal cavities have been well studied under the microscope and can be conveniently classified as follows: Thrush caused by Oidium albicans, nigrities linguæ (black tongue), mycosis sarcinica and aspergillina, and mycosis due to yeast and leptothrix.

In nigrities linguæ the tongue is covered with black deposits, which are cast off as readily as they reform. Dessois³ believes it to be caused by glossophyton. Sell⁴ and Dahl could not place the parasite among any class. Klebs calls it penicillium microscoporium. Schmiegelow's⁵ black fungi are hyphomycetes, not identical with those of Ciaglinsky and Hewelke,⁶ consisting of mucor niger and those of Sendziak,⁷ resembling aspergilli.

Mycosis sarcinica was first described in 1846 by Virchow,8 and later by Nauwerk9 and Fischer.10 Mycosis aspergillina, comparatively frequent in the external auditory meatus, is exceedingly rare in the throat. Schubert11 has given an interesting account of its occurrence in the naso-pharynx. Siebenmann12 found there aspergillus fumigatus and nidulans, and mucor corymbifer. John N. Mackenzie13 and Zarniko14 found aspergillus in the antrum of Highmore.

Mycosis of the tongue, produced by yeast, has been observed in a new-born girl by Parak, 15 later by Troisier and Acharme 16 after typhoid fever, and lately by J. Herzfeld, 17 in one case after influenzi-pneumonia and in another in a girl aged twenty years.

^{*} Presented to the Section on Laryngology and Otology at the regular annual meeting of the American Medical Association, Columbus, Ohio, June, 1899.

Thrush, as it is commonly called, and mycosis leptothricia are the two forms most frequently met with. Thrush, as is well known, occurs most frequently in children, but is common also in adults, especially in association with tuberculosis. Freudenberg18 has detected it in healthy persons. The out-set of the disease is marked by the formation of white patches on the mucous membrane, and, when examined microscopically, these patches are seen to enclose sharp-bordered oval cells, each having one or two nuclei. cells are disposed in groups of two or three. Later on an examination of these patches shows them to consist of epithelial cells, leucocytes and debris, amongst which the parasite appears as branching, ribbon-like forms composed of long segments. Each segment usually contains two strongly refractive nuclei embedded in a clear substance, one at either end. The segments vary in length, and grow shorter toward the extremities of the parasite. They are for the most part homogeneous, but occasionally finely granular. There are also to be seen oval bodies, which are thought to be the spores (gonidia) of the fungus. There is still much dispute as to the place of the thrush fungus in the vegetable kingdom. Rees19 refers it to the yeast fungi; Grawitz²⁰ supposes it to be identical with the fungus studied by Cienkowsky, and Plaut21 opposes this view, regarding it (with the above named author, and also Baginsky²² and Klemperer²⁸) as a yeast-fungus.²⁴ According to the more recent investigations of Plaut²⁵ the thrush fungus is identical with the widely distributed Monilia candida. The observations of Langerhans,26 and more recently of Charrin and Ostrowsky,27 give reason for belief that this parasite, though generally innocuous, may also in the human subject be an agent in suppuration. The fungus can be easily examined by placing part of the loose membrane with a little glycerine under the microscope.

The second form of pharyngeal inflammation is produced by the leptothrix buccalis. This fungus was first discovered by Leuwenhæk in 1695, and was subsequently, with other fungi of the mouth, investigated by Bühlmann, Henle, Robin and Hallier. It appears as large, twisted, thread-like organisms, in which segments can be demonstrated with difficulty or not at all. Apparently different organisms have been described under this name. Vignal claims to have cultivated a leptothrix buccalis. Miller²⁸ recognizes two principal species, neither of which could be cultivated—leptothrix innominata, which shows no transverse divisions, and which is stained faintly yellow by iodine; and bacillus buccalis maximus, in which the transverse divisions are distinct, and which is stained brownish violet by iodine.

Rassmussen²⁹ has developed, by spreading human phlegm of healthy individuals upon potatoes and nutrient gelatin, three different kinds of leptothrix, which he cultivated in sterilized nutrient fluid, whereby he believed himself to have proved the generic connection between bacilli and cocci. Jacobsohn⁸⁰ has made successful culture experiments with leptothrix fungi taken from patients affected with the mycosis. According to Toplitz, Van der Poel and Miles the disease appears to be more frequent in women than in men. Of the dozen cases mentioned by Ingals31 about one-half were men and one-half women. Guinier thinks that lymphatism is a good condition for the development of the mycosis, but, on the contrary, it is observed that most of the patients belong to the wealthy class of people, among whom hygiene is at its highest. It occurs with predilection between the twenty-eighth and thirty-fifth years, and has also been observed between the twelfth and sixty-second years of age. The symptoms of these two chief varieties of pharyngeal mycosis are largely objective. Thrush being usually ushered in with some febrile disturbance and gastro-intestinal irritation, such as sickness, diarrhea, abdominal pain and tenderness. An inspection of the pharynx, as previously stated, reveals the presence of circular spots about the size of a pin's head, slightly elevated and of a white color. If the course of the disease be unchecked, the spots gradually coalesce until, in some cases, the entire mucous membrane is covered with patches of a whitish color. Thorner32 records a case in which he was able to watch the gradual extension of the fungus from the pharynx to the naso-pharynx and thence into the nostrils. Mycosis leptothricia may be attended by a sensation of dryness and of irritation in the fauces, uneasiness or pain during deglutition, a sensation of tickling, of a string around the neck, of a foreign body in the throat, accompanied with coughs and scraping sensation. Thomas has observed cases with fever and loss of appetite. The fetid breath, which is rare, was observed by Gautier. The tone of the voice may be weakened and become hoarse. According to Hall, the growth occurs in the pharynx in two forms-diffuse and circumscribed. In the diffuse variety, shiny, milk white patches form on the mucous membrane; in the circumscribed variety, white or yellowish gray, soft, sometimes horny, often pedunculated nodules or pointed excrescences make their appearances in the crypts of the tonsils. Dr. O'Chiari reports that in a very hard concretion from the tonsils, which he found, on chemical examinations, to consist of carbonates and silicates, he met with splendid specimens of leptothrix. The pillars of the fauces and the posterior wall of the pharynx, together with the lateral pharyngeal walls, are sometimes covered with the parasites quite low down. Wright³³ reports a case where the greater part of the pharyngeal wall had upon it these waving cilia-like mycelial threads, reminding one of the downy hairs of an infant's skin. The epiglottis34 is, in rare instances, studded with crater-like deposits of the fungi which occasionally migrate into the larynx. 85 36 It is not necessary to speak at length regarding the diagnosis. Mycosis leptothricia is differentiated from diphtheria by the absence of local inflammatory appearances, the non-feverish condition of the patient, the discrete occurrence of the deposit, its hardness, and usually the simultaneous implication of the root of the tongue. It is generally easy to distinguish it from lacunar amygdalitis, because in that disease the points are soft and friable and half liquid, and not adherent. Lacunar cysts of the tonsils form flat and transparent plates, yellowish, isolated and habitually occupying the top of the tonsil. Calcareous concretions are larger and give out a stony sound under the probe. The caseous concretions of granular pharyngitis are softer and less adherent. The Brown-Kelly hyperkeratosis, in which we also note the presence of leptothrix, is different from the mycosis in the fact that the excrescences are rough, very adherent and of a characteristic form. Careful microscopical examination will establish a diagnosis in every instance. When thrush occurs in adults and old people it generally indicates a great want of vital power, and it is therefore of grave prognostic import. In the other form of mycosis the prognosis is favorable in spite of resistance to the treatment, which is to be active. In cases of thrush the important indication is the observance of the most scrupulous cleanliness in everything used, in children special attention being paid to the state of the bottle. Hall advises swabbing out the pharynx two or three times a day with a weak solution of carbolic acid, permanganate of potassium or sulphurous acid. In mycosis leptothricia hot gargles are indicated together with the extirpation of the growths with the forceps (Castex), or their destruction by galvanic or thermal cauterization. Teplitz, Price-Brown87 and others report cases successfully treated by the latter method. In obstinate cases Heryng extirpates the tonsils and then burns down any remaining nodules with the galvano-cautery. Chiari supplements the action of the galvano-cautery by painting the affected part with sublimate solution (1:1000), and by ordering the same solution (1:10000) for gargling. Wright38 advises change of climate as really the most reliable plan of treatment. Heryng³⁹ reports a case in a physician who, after employing all the therapeutic measures recommended without result, was finally compelled to resort to

Folia nicotina (in the form of cigars, used frequently and "with delight"), and after two months he was perfectly cured.

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SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

Each meeting of an International Congress marks a new epoch in the history of the science which it represents, and the Sixth International Otological Congress, just completed in London, has been a decided and influential factor in awakening renewed interests in otology, in presenting possibilities for future advance and in forming pleasant and lasting friendships with representative otologists from every section.

The sessions of the Congress were well attended, and nearly every otological center in the world was represented. One of the difficulties in the way of an active participation by many enthusiastic members in the papers and discussions was due to the fact that many were not equal to the linguistic requirements of the occasion, as English, German, French and Italian were the official languages of the Congress, and several valuable papers were thus presented without receiving due attention.

Perhaps the most interesting and valuable feature of this Congress, however, was the Museum of Otology, arranged at the cost of much labor and skill, well planned in every detail, the specimens presented in their most favorable aspects, and every facility afforded for in-

spection and examination of each individual specimen.

The gems of this complete museum were the celebrated Toynbee collection, the valuable preparations of Prof. Politzer of Vienna, and the interesting specimens on the comparative anatomy of the ear and nose of Prof. Stewart of the Royal College of Surgeons. The details of arrangement of this vast museum were in the hands of Mr. A. H. Cheatle, assisted by Dr. Jobson Horne. Much credit is due them for the success of this great exhibition. It was the concensus of opinion of members and delegates that this museum was the first feature of the Congress. Prof. Politzer, in moving a vote of thanks of the Congress to these gentlemen for their indefatigable labors in the interests of the museum, said: "I have attended every otological congress up to the present, and have also seen every important collection of this character in the world, and I do not hesitate to say that I have never before seen such a magnificent and well-organized museum, and I doubt if it will be possible to see such a one again."

A catalogue, fully descriptive of this collection, is now being pub-

· lished and will constitute a valuable reference volume.

Second to no other feature of the Congress were the many social entertainments tendered the visiting delegates, members and their ladies.

The pleasurable recollections of receptions and banquets, of dinners, general and special, of excursions to Windsor and Bray, of drives to Richmond and trips on the beautiful Thames,—these are graven in our memories as evidences of the hospitality and cordiality of our British hosts. We take this occasion to again express the sincere thanks and appreciation of the delegates from across the sea.

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We are pained to announce the sudden death, August 28, 1899, of our esteemed colleague, Dr. Max Thorner, of Cincinnati.

Dr. Thorner was forty years of age, a graduate of the University of Munich, recognized as a prominent and one of the ablest laryngologists in America, identified with every progressive movement in the interests of otology and laryngology, a fellow of the leading laryngological and otological societies, a contributor to several of our best journals and honored wherever he was known.

He was student, author, skillful surgeon and genial companion. This irreparable loss will be deeply felt, not only in the field of laryngology and otology, but by the entire medical profession.

SOCIETY PROCEEDINGS.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

Convened in London, August 8-12, 1899.

President's Address-Urban Pritchard (London).

It would be well to recall the story of the birth and growth of otological science. Although Toynbee was generally acknowledged to be the father of modern otology, for the date of its birth we must go back some 3,400 years to the then flourishing country of Egypt. Roosa, in his excellent treatise, referred to a certain ancient papyrus (called after its discoverer, the Papyrus Ebers) on which was written a monograph on "medicines for ears hard of hearing" and "for ears from which there is a putrid discharge." And here in the museum, might be seen a confirmation of the fact that ear troubles not only existed in those days, but that they could be cured; for we have the good fortune to possess a curious old Egyptian relic, consisting of a wooden tablet on which are portrayed, in bas relief, two effigies of the sacred bull and two auricles; this was undoubtedly a votive offering to the god Hathor from some "grateful patient." In spite of its early birth, however, otology, except perhaps with regard to its anatomy and physiology, did not make itself of great importance until the second half of the present century. The Royal Ear Hospital, in Dean street, Soho, which was acknowledged to have been the first successful aural clinic in Europe-and I believe in the world-was established in 1816. But, speaking generally, we might safely assert that aural surgery continued to be more or less in the stage of infancy until between 1840 and 1860, when the study was vigorously taken up by Sir William Wilde and Toynbee, who thus gave a fresh impetus to the study of the pathology and treatment of diseases of the ear. Even then its importance was by no means generally recognized; indeed, only thirty years ago it was a general favorite saving of more than one celebrated surgeon that "ear diseases may be divided into two classes-those which can be cured by any general practitioner and those which, being incurable, may be relegated to the tender mercies of the ear specialist." In my student days I well remember the sarcastic manner of Professor Partridge when he said, "Ah, gentlemen, a little wax is a godsend to an aurist," meaning, of course, that its removal was an easy method of earning a reputation. And, no doubt, there was a certain truth in those words, though not exactly in the sense implied by the good old professor; for who of us has not found that, by removing a plug of cerumen which had either not been diagnosed or which had resisted all the efforts of the general practitioner to dislodge it, had gained kudos and an appreciation which many of his more delicate operations had failed to secure? Things have indeed changed since then, for, instead of a few aural surgeons scattered here and there in Great Britain, we have now at least a couple of hundred, while the number of cliniques in London alone had been increased from two or three to near upon twenty. And in many other countries this branch of medical science was even more strongly represented. As a natural result of the increased interest in the work, I would call attention to the unique museum connected with this congress, wherein is to be found the largest and most valuable collection of otological specimens, a collection which could only have been brought together by the union of international forces. The museum is so complete that if you had come to visit it alone your trouble would have been repaid. But in one respect there is still room for improvement. I refer to the need for the better recognition of otology by our universities and colleges. One step had lately been made in this direction, for the University of Edinburgh had now made it one of the qualifying subjects for her medical degrees. So far as the anatomy and physiology of the auditory apparatus are concerned comparatively little has been added in the last thirty years to the store of knowledge already gained, although a more intimate study of its parts has made that knowledge more complete and precise. In pathology there has been considerable advance. In disease of the meatus, although aspergillus was discovered before this period by Meyer, Schwartze and Wreden, yet it was not elaborated with any fullness until later. Also, the nature and classification of exostoses has been worked out within this period. Our knowledge of the changes in chronic middle-ear catarrh, and in sclerosis, has considerably advanced, although much here yet remains to be done. The effect of pathological conditions of the nose and naso-pharynx upon the auditory apparatus, adenoid vegetations more especially, has practically been discovered. In chronic suppurative catarrh, disease of the ossicles, the implication of the attic, the antrum, and the mastoid cells has been worked out; also the intracranial complications which sometimes followed. The nature of the granulations and polypi were now better understood, and, although Toynbee had already called attention to cholesteatoma, its pathological importance in connection with mastoid disease was not fully realized until quite lately. In the pathology of labyrinthine disease there has not, perhaps, been so much advance; but Ménière's disease was now better understood, and Politzer has made known a disease of the bony capsule. Finally, the pathology of congenital syphilis affecting the internal ear has been partially worked out. The means of diagnosis has been considerably improved, while in treatment there have been immense strides, due to the adoption of antiseptic surgery. The nineteenth century, which has brought to the world so many wonderful blessings in other directions, has not been unmindful of our branch of medical science. For, whereas at its commencement the ear was regarded almost as a terra incognita, scarcely worth consideration except as the seat of one affection only-that which was generally known as "a deafness"-now, at its close, this organ was fullyexplored ground, and had been proved well worth the exploration. Otology had been raised from the rank of pseudo-quackery to an honorable position in scientific surgery, and its importance and bearing upon the body as a whole was now fully recognized.

On a New Method of Measuring the Quantitative Hearing Power by Means of Tuning Forks—E. Schmiegelow (Copenhagen).

Many experiments have been made in later years to find a reliable method for these measurements. There are the methods of Hartmann, Gradenigo and Lovardemaker, which, however, cannot be called satisfactory as they do not give exact results. In order to use the time and vibration of certain tuning forks in measuring the hearing power it is necessary to know the vibration curve. If it were possible to measure the amplitude of each tuning fork from the moment it was set in vibration to the moment when the tone died away the difficulty in using forks as reliable tests of quantitative hearing would be solved. In the light of their present knowledge the amplitudes of the deeper forks only are measurable. Bezold and Edelmann had by means of a very cleverly invented instrument constructed vibration curves of the deeper forks (from D1 to F) and from these they constructed a standard curve. They, furthermore, presumed that this curve, being almost the same in all the deeper forks, must be the same for every fork, even the highest ones. It seems, however, that Bezold and Edelmann have started from wrong conclusions and that the result of their experiments do not agree with the theory. According to the theory, the amplitudes decreased at an approximately geometrical progression; that was to say, that the logarithms of the amplitudes diminished

directly with the time. This theory was no doubt correct, but only as far as the small amplitudes were concerned (Jacobson), or in other words, the logarithmical decrement was greater and irregular at the beginning, but toward the end it became nearly constant. By a very carefully prepared mathematical diagram it may be shown that in an examination of the curve found by Bezold and Edelmann that the differences between the logarithmics of the amplitudes corresponding to the time of o - 10 - 20, etc. - 100 seconds to begin with, decreased as they ought to do, but afterward increased, which they ought not to do. According to theory they should expect that the difference after decreasing as it did to 0.151 ought to remain pretty nearly constant. The difference, however, increased again, which meant that for some reason or other the vibrations were impeded at an increasing rate and the curve therefore not correct. Everything tended to prove that the curve of the higher fork was different from that of the deeper ones and that such fork had its own special curve. In order to find the curve of vibration for each tuning fork G, Forchhammer and I proposed the following method: A tuning fork is struck and the time in which it is heard at different distances from the ear is determined. The abscisses of the curve represent the distances, the ordinates the time of perception. The correctness of this method is founded on the fact that the amplitude is proportional to the distance at which the tone disappears, the intensity of the tone being constant when the "Hörschwelle" is reached, which is the moment when the tone can no longer be heard. The method is also practicable in so far that instead of the microscopic amplitudes the microscopic distances were measured, an advantage which is all the greater because the amplitude of the higher tuning forks could not be measured microscopically. The forks examined were made by Edelmann in Munich and were C. G, C1 G1, C² G², C⁸ G³, all of them unloaded.

The experiments were made under as good conditions as could possibly be procured in the open air at some distance from town. If, for instance, the curve of the C¹ fork (261 vibrations) was to be determined, we would proceed in the following way: By six series of experiments it was found that C¹ properly struck would be normally heard for 7 seconds at a distance of 160 cntms. from the ear, 14 seconds at a distance of 80 cntms., 23 seconds at 40 cntms., 37 seconds at 20 cntms., 62 seconds at 10 cntms., 88 seconds at 5 cntms. and 117 seconds when held as close to the ear as possible without touching it. According to the theory the differences between the time at a distance 5 — 10 cntms. and the distances 10 — 20 cntms. should be the

same because close to the ear where they had to do with small amplitudes the time increased at an arithmetical ratio (with constant differences) if the distance diminishes at a geometrical ratio. This theory was actually proved by the experiments. At the beginning of the curve (from 160 - 20 cntms. distance) it was found that the differences in time were smaller at the greater distances from the ear, that they increased up to about 20 cntms. distance and then became constant as far as the final part of the curve was concerned. The fact was that a tuning fork did not emit the tone, from the external surface of the prongs, but the vibrations were presumed to spread out from two points which were situated between the external surfaces of the prongs. By a series of experiments it was found that the distance between the tone center and external surface of the tuning fork was about 1 cntm. in the forks C, G, C1, G1 and of C2, whilst the distance was about 1.5 cntm. in the forks G2, C3, G3, C4, G4, C5. As the distances were reckoned from that surface of the prong which faced the ear they must therefore add to the distances 5 - 10 and 20 cntms, the distance of the tone center from the external surface of the tuning fork. With regard to the fork C1 the addition would be I cntm. They were now able by means of calculated value of x and other experimentally-found data to construct the curve for C1. If a patient heard the fork C1 for instance seven seconds, the fork being struck powerfully and held close to the ear, it meant that the patient's minimum hearing amplitude or his Hörschwelle was $\frac{160}{1.3}$ = 123 times his hearing distance. His hearing power $\frac{1}{(123)^2} = \frac{1}{15129}$ of $\frac{1}{123}$ times. If the normal hearing power is equal to I the reduced hearing power would be equal to 0.00007. Supposing, on the contrary, the patient heard the fork 62 seconds, his minimum hearing amplitude would be $\frac{11}{1.3} = 8.5$ times the normal hearing distance. His hearing power $\frac{1}{(8.5)^2} = \frac{1}{72.25}$ or 0.0138 if the normal hearing power was equal to 1. In this way we are able to construct the curve of every tuning fork and thereby to find how much the hearing power is diminished if the time in which the fork is heard at a certain distance from the ear, is known.

By comparing the curves of the various forks a great difference can be seen. The curves of some of them—the deeper forks—are steep and short, others—the higher forks—flattened and long. In other words, the assumption of Bezold and Edelmann that the curves are always the same is not correct and one employing their method could not get at reliable results. This could easily be illustrated by examples. For instance, the forks C — G^1 — C^2 — G^3 — C^4 . These are, according to my experiments, normally heard close to the ear

during respectively 328, 202, 162, 55 and 43 seconds. Suppose we had a patient who heard these forks only for half the time, the normal hearing power would, according to Bezold and Edelmann, for all hearing forks, be equal to $0.049 = \frac{1}{20}$. If, on the contrary, they used the special curve of each fork the result would be quite different because it would be found that the decrease of the hearing power for C would be equal to $0.026 = \frac{1}{39}$ of the normal hearing, G^1 , $0.012 = \frac{1}{144}$ of the normal hearing, G^3 , $0.00006 = \frac{1}{17384}$ of the normal hearing, and C^4 , $0.000025 = \frac{1}{40000}$ of the normal hearing.

The enormous difference between the results given by this and by Bezold-Edelmann's method is obvious. I therefore believe that if one wished to use the time in which a fork is heard to measure the quantitative hearing power, it would first of all be necessary to know the curve of the forks employed. In order to find these curves I

hope the method here described may be useful.

Dr. Schmiegelow, replying to questions by Professor Politzer and Dr. Dundas Grant, said the experiments he had carried out were in connection with the mathematical aspect of the hearing power. In the clinical world Hartmann's methods were very good and practical, but he thought they were far from reliable. If they wanted to compare the result of the hearing power by the different tuning forks and to know the influence on the voice they could not get any certain basis to work upon. He was only as yet on the fringe of the question.

Functional Examination of the Ear, Advocating a Uniform System of Recording Results—G. Gradenigo (Turin).

The question of measuring the amount of hearing is an extremely difficult one, so much so that every author has his own system. The consequence is that there is a great loss of time in studying any text book or paper, and it takes a long time to unravel the method the author has adopted. It is of the greatest importance that at an International Congress like the present one a uniform system of measuring the hearing power should be adopted. In any system there are two things that should be remembered. First it should be a practical, not a complicated system; second, it should be easily inscribed in text books and ought not to take up so much space. This method embraced these two points. The hearing distance is noted on two lines—the upper line for the right and the lower one for the left, and Latin terms are used so that they can be comprehended by all nations instead of each nation using its own language. For the Schwabach experiment, in which the vibrations

were normally higher, I suggest the using of the letter S, followed by plus or minus as the case might be. With regard to Weber's system I use the letter W, and for the right and left ear indicate an arrow going upwards or downwards. For the Rinné experiment the letter R should be used with the plus and minus. The next is the experiment of the watch, and that should be indicated by the letter H (Horologium). The experiment of Politzer may be indicated by the letter P; for a whisper the small v should be used and for the conversational voice a large V. Finally there is the Hartmann experiment, to be indicated in a similar way—by Latin nomenclature. This system is simple, quick and easily carried out and I suggest its universal adoption.

Experiment Concerning Acoustic Phenomena in Fluid Mediums (with Demonstration)—R. Kayser (Breslau).

The author dealt with the results of telephones one end of which was submerged in water. There was a membrane, a second strata of water, a second membrane containing two openings, one connected with an outer tube and the other with the diaphragm. Of a vibrating tuning fork only the middle tones were heard, the lower and higher being lost.

Tuberculosis of the Middle Ear-O. Brieger (Breslau).

Some Observations upon the Diagnosis and Treatment of Tuberculous Disease of the Middle Ear and Adjoining Mastoid Cells—W. Milligan (Manchester).

The widespread interest which has of late been manifested in this and other countries in the endeavor to check the ravages of tubercular disease in its numerous forms has an interest to the otologist, not only on account of the general merits of the case, but more especially on account of the frequency with which tubercular lesions are met with in and around the middle ear. The factors which come into play in producing tubercular lesions of the middle ear and its adnexa are but imperfectly understood, and their investigation opens up a wide field for research and experiment. Does the bacillus gain entrance to the middle ear by way of the Eustachian tube or is it conveyed along vascular or lymphatic channels? What also is the relation between the tubercular naso-pharyngeal adenoid vegetations and tubercular middle ear disease? Questions such as these are not easily answered, and yet their solution must appeal to all as being of much importance. That a large proportion of the

cases of suppurative middle ear disease with accompanying bone lesions met with in practice are of a tubercular nature will be admitted by all, and that the prognosis in such cases is not very favorable will be conceded by those who had had large clinical experience.

The characteristic features of tubercular middle ear disease might be somewhat masked on account of an accompanying pathogenic infection, and an accurate diagnosis might be impossible if one relied upon finding the bacillus of tubercle in the secretion from the middle ear. Amongst causes which might be considered predisposing are the following: (1) Hereditary tendency, (2) unhealthy environment, (3) unsuitable feeding, (4) exposure to infection from tuberculous relatives, (5) the presence of naso-pharyngeal adenoids. The relation of nasal obstruction to tubercular middle ear disease deserves special consideration. In many cases post-nasal adenoids were present and in a small proportion had themselves been tuberculous. The almost constant degree of Eustachian catarrh which their presence implies produces a soil which is favorable to the growth of the tubercle bacillus, and once it finds a footing in the middle ear the conditions favorable to its development are present, namely a suitable soil, a more or less uniform temperature, etc. In the early stages these tubercular foci appear as slightly elevated, yellowish points in the mucosa, after a time coalescing and breaking down to form superficial tubercular ulcers. Should the deposit occur on the inner aspect of the membrane, perforation ensues. Such perforations might be multiple, and the destruction of tissue is usually quite painless. The edges have a pale, indolent-looking appearance, and the accompanying discharge from the middle ear is usually thin, ichorous and frequently fetid. Within mastoid cells such deposits are also frequent, and in some cases it may be determined that the disease begins first of all within the mastoid and subsequently spreads to the middle ear. At a very early stage the bone becomes affected and undergoes an amount of destruction almost inconceivable considering the comparatively slight external indications present. In some cases practically the entire cancellous tissue or mastoidoccasionally of both mastoids-had been eaten away, leaving merely a bony shell upon which the middle fossa was poised. Owing to this early and extensive destruction of bone the facial nerve in part of its course was exposed with resulting facial paralysis. In fact, early facial paralysis in a case in which sthenic symptoms were absent should be looked upon with suspicion and as an even probable manifestation of an underlying tubercular lesion. Early implication and enlargement of the glandular structures around the ear is also a most important symptom and when masses of enlarged glands occurred around the ear any discharge from the tympanic cavity should be microscopically examined for bacilli. To definitely establish the fact that the aural lesion is of a tubercular nature the characteristic bacillus must be found. The method which gives the most reliable results is the inoculation of guinea-pigs with small fragments of tissue removed from the middle ear or adjoining mastoid cells and it is advisable to inoculate with fragments of bone and mucous membrane from an area where the disease was seen to be advancing. In a few weeks' time, should the tissue inoculated be tuberculous the lymphatic glands will be found enlarged and as time goes on the tubercular virus will be found to have spread over the animal's body, and glands and viscera being attacked in the following order according to the results obtained by Prof. Delepine. During the second week after inoculation the lymphatic glands upon the same side of the body below the diaphragm and the spleen will be found enlarged. During the third week, the liver, the mediastinal and the bronchial glands. During the fourth week the lungs, the cervical and axillary glands. After fourth week some of the lymphatic glands of the opposite side of the body below the diaphragm became affected, but this takes place extremely slowly and the sublumbar and popliteal glands escape for a considerable time. Microscopic sections made from these glands and stained for bacilli frequently reveal their presence.

The practical difficulties encountered in removing tubercular deposits within bone are immense and in no region of the body are those difficulties greater than when tuberculosis attack the temporal bone. The complications to be feared are: (1) Meningitis, (2) tubercular enteritis, (3) general marasmus. The treatment of such cases must be considered from two points of view, according as it is non-operative or operative.

The first and main essential is to provide free drainage. This implies opening and cleansing the mastoid cells, and it is a remarkable fact how often in such cases without any external and objective sign or indication the mastoid cortex will be found extensively perforated and a pulctaceous mass immediately exposed to view. All softened and carious bone must be scraped away and as smooth a cavity left as possible, even if this necessitates laying bare the dura and walls of the lateral sinus. The cavity should be allowed to granulate from the bottom and care must be taken to stimulate any sluggish area by application of chloride of zinc, nitrate of silver, etc. Frequently more than one scraping is necessary.

An important point arises in connection with the treatment of the accompanying enlarged glands. Some of the glands might be enlarged purely as the result of septic absorption, and if the morbid cause be removed this enlargement would subside, especially if aided by suitable treatment. But many of the glands are of a tubercular nature and are prone to undergo caseous degeneration while at the same time they are a source of possible systematic infection. Hence after the mastoid area and cavity of the middle ear has been attended to and as soon as condition of the patient permitted, another operation should be undertaken with the object of removing the enlarged and tuberculous structures. General treatment such as the administration of cod liver oil, iodide of iron, syrup of iodine, etc., is useful, as is also change of air and liberal diet.

Professor Politzer observed that operation often accelerated death. Dr. McBride said he should like to know what method Dr. Brieger used in diagnosing. In Britain they were not allowed to make the inoculation experiment.

Dr. Brieger made the diagnosis by examining the granulations.

Congenital and Acquired Anomalies and Absence of the External Auditory Canal—A. Hartmann (Berlin).

Two cases were described. One was that of a newborn child and the other was an adult. The specimens, together with models of the external ear, were exhibited, and are to be seen in the museum of the Congress. The author also related the case of a patient with acquired occlusion of both external meatuses resulting from scarlet fever. On one side was performed the radical operation with a considerable improvement of the hearing.

Holinger (Chicago): This report is very interesting because we must face the question whether to operate in such a case. In examining 510 children of the institute for the education of deaf and dumb in Jacksonville, Ill., I found a girl of fifteen with absence of both auditory canals. The girl was growing more and more deaf on account of constantly recurring attacks of otitis media. The first attack came on after scarlet fever and the pus broke through the mastoid. The question of operation answered itself. I should operate in the following way: Chisel behind the auricle down to the middle ear and remove the malleus and incus; allow the wound to granulate and then cover according to Siebermann with Thierch's grafts. Thus a canal is created behind the ear. The operation would be to improve hearing mainly and to stop the recurrence of the suppuration.

On Blue Ear Drums — "Tympanum Ceruleum"—F. Rohrer (Zurich).

The author reported a case of this unusual affection, and discussed the pathology and etiology.

The Appearance of Varices on the Ear Drums-Rohrer (Zurich).

This paper was submitted in conjunction with the preceding one by the author. The special features of both papers were demonstrated by well-prepared charts.

Unusual Complications of Adenoids on the Riviera—T. Bobone (San Remo).

Naso-Pharyngeal Adenoids as a Causative Factor in Ear Disease—A. T. Haight (Chicago).

Among the most interesting cases, the author said, that came before the otologist were those pertaining to post-nasal vegetation affecting the hearing, and there were few patients to whom more satisfaction could be rendered than to those so affected. Adenoid vegetation seemed not to be restricted to countries, to climates, to sex, to color, or race of man. Adenoid vegetation might produce inflammation of the middle ear (1) by constant irritation on account of the obstruction to the circulation of the blood by pressure, (2) by blocking the orifice of the Eustachian tube partially or completely, (3) by their injurious effect upon the general economy of the child and particularly upon the nerves of special sense, (4) by leaving as a sequela a post-nasal catarrh which sooner or later establishes some form of middle ear disease. In children who have suffered from adenoid vegetation the hearing is generally very sensibly impaired. In many cases the Eustachian tube is completely blocked by dry secretions of the post-nares. Diminution of power of hearing on the side where the adenoid existed is frequently observed. On the opposite side where the post-nasal space is clear the hearing is normal. He had seen cases where the hearing was seriously impaired and the drum membranes normal in appearance and yet with safety he assumed the faulty hearing to be dependent upon the growths in the naso-pharynx. Mouth-breathing had an important otological bearing on the subject. The mouth-breathing child was usually found shallow through the upper part of the chest and with very small lung capacity. We frequently meet with children affected with adenoids who were not mouth-breathers, and these children were plump, well developed and of healthy appearance, although they

usually had some ear complication. Examination of twenty-six children for deaf-mutism revealed only four free from post-nasal adenoids; sixteen of those examined showed marked facial deformity from mouth-breathing. He coincided with Harrison Allen and Sisson who had the opinion that there were many children in homes for feeble-minded and idiots all over the world who were affected with this disease, and who by a comparatively trifling operation could possibly be restored to usefulness and their families. It would be obvious to mention every analogous case reported of deaf mutes who after the removal of adenoid vegetations gave evidence of hearing and began to speak some words. The general belief that adenoid vegetations were never present after the thirtieth year was contradicted by Conetoux, of Nates, who operated upon a man of sixty-five to cure a marked unilateral deafness. I have found vegetations in ages above sixty and frequently between thirty and forty. They did not differ histologically from adenoids in children. It was not uncommon to observe these formations in the aged who were hard of hearing. Notwithstanding all the writings of the past ten years I do not think that the pathological enlargement of the lymphoid tissue of the naso-pharynx has received sufficient attention in the world's textbooks. If the symptoms of these growths were more generally recognized by the family physician and their removal accomplished they would not find so many chronic suppurative and non-suppurative inflammations of the middle ear with the history dating back to an attack of diphtheria, scarlet fever, measles or other fevers. As to treatment I should say it was never too early nor was it ever too late. At the first recognition of existing growths the operation should be performed at once. Curetting is the only true basis of treatment. I am not a believer in general anesthetics in children over the age of twelve, as local anesthesia after twelve made such an operation absolutely free from danger; but there were some cases where a general anesthetic must be administered especially in refractory children and nervous adults. In children it was advisable to anesthetize in a sitting posture and he preferred bromide of ethyl to any other of the numerous anesthetics.

Knapp (New York) also advocated the use of ethyl. There was absolutely no danger.

Eeman (Ghent), Grazzi and Gradenigo also said a few words generally, supporting the opinions of the essayist.

(To be continued in October issue).

ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by

FAYETTE C. EWING, M.D., St. Louis,

with the collaboration of the

EDITORIAL STAFF.

I. NOSE.

The Significance of Nosebleed as an Early Symptom of Softening of the Brain and the Relation of both Diseases to Arteriosclerosis—Karl Kompe—Archiv fuer Laryngologie, Band ix, Heft 2, 1800.

After a history of five cases, the author gives his reasons for thinking that nosebleed may be a symptom of the earlier stages of arteriosclerosis, and hence a forerunner of cerebral softening (Encephalomalacia). It is established that sclerotic changes are very apt to be set up in the carotids, especially the internal, as early as anywhere in the arterial system. These changes most readily pass along into the ramifications of the carotids. The ethmoidal artery, a branch of the ophthalmic, being thus derived from the internal carotid, supplies the upper and anterior nasal structures; while the spheno-palatine, a branch of the internal maxillary, and therefore a derivative of the external carotid, supplies the posterior portion. These vessels being among the first to become weakened may easily give rise to severe and frequent epistaxis. The intima becoming first affected, the blood seems to lose its coagulability, and in addition to this the elasticity and retractile power of the arterial coats being lost, there is no good reason why a hemorrhage should not continue almost to exhaustion. As a matter of fact plugging the nares is often necessary. All practitioners, and especially laryngologists and rhinologists, who are most frequently called to these cases, are urged to make a careful examination of the arterial system. This is of especial importance as treatment in the early stages does seem to accomplish some good, while later on it is of no avail.

Acute Rhinitis, Causing General Infection—Report of Liverpool Medical Institution, *British Medical Journal*, May 13, 1899.

Dr. Pemerson related a case which had caused general infection of the system, and in which treatment of the nasal condition caused rapid subsidence of the fever.

FOXCROFT.

Some Causes that Contribute to Failure in the Treatment of Nasal Catarrh—JNO. A. HALE—Med. Herald, Vol. xviii, No. 4, 1899.

Directs attention to the frequent failure of the practitioner to cure, or even permanently relieve nasal catarrh. Out of these failures develops the quack. The patient experiencing no benefit from the regular physician, falls a victim to the flaming advertisements hoping to prevent his disease from "running into consumption." The quack is shrewd enough to afford relief, and the physician is discounted. This success is not due to any special knowledge possessed by them, and to forestal them we have only to determine the pathologic conditions present, and base thereon a more rational therapy. Patience is a desideratum much needed. Uncertainty of conditions has led many to empiric remedies.

There are only two local indications to be met. First, a cleansing of the mucous membrane; secondly, keep it so. Note the condition of the stomach, keep up nutrition and improve the general health. A weak solution of permanganate of potassium was once the favorite remedy to fullfil the local indications, but this has given away to glyco-thymoline, which is lauded for its specificity.

Rhinoplasty—Kuemmel—Deutsche Med. Wochenschr., May 11, 1899.

At a meeting of the Medical Society of Hamburg, held December 13th, the author advocated a return to the old method of Tag-This operation, where the flap for the artificial nose is taken from the arm, avoids the increased disfiguration which occurs where the flaps are taken from the cheeks and forehead. Inasmuch as the skin from the arm shrinks very much more than that taken from the face, the author advises that a flap be taken which is twice as large as the region to be covered. The principal objection to this method is the painful position of the arm. Patients will, however, readily submit to it, when it is explained to them that it is for the purpose of avoiding any further disfiguration of the face. The edges of the nasal defect are freshened, the arm is then fastened to the head by a plaster bandage, the flap loosened from the arm and its free edges sewed into the freshened nasal surfaces. Between the sixth and tenth day the pedicle attaching the flap to the arm is gradually cut through. The material for the artificial nose has now been obtained, and the surgeon may adopt measures suitable to the individual case.

Mouth-Breathing—James M. Crawford, Atlanta, Ga.—Journal ... Am. Med. Assoc., May 27, 1899.

The author recites the various causes of mouth-breathing. In operating for adenoids, he prefers the finger where the tissue is soft, and the Gleitsmann forceps where fibrous. No anæsthetics are used.

STEIN.

Severe and Threatening Collapse After an Operation for Nasal Polyps—Max Breitung—Wiener Klin. Wochenschr., June 1, 1899.

The patient, a man well up in the fifties, was the subject of a moderate degree of arteriosclerosis. Heart action not quite regular. Operation without cocaine. During half an hour fifteen polyps were removed. No bad symptoms whatever during the operation, but at its close the patient suddenly exclaimed: "I feel bad;" the eyes became fixed, the lower jaw fell and insensibility supervened. The pulse disappeared and respiration was scarcely perceptible. The author at once commenced artificial respiration and at the end of fifteen minutes was rewarded by seeing slight irregular respiratory movements, while at the same time the pulse became perceptible. Gradually the normal condition was restored. The author is inclined to attribute the accident largely to fear. This cause, together with a heart enfeebled by the disturbed nasal respiration, led to the sudden collapse. No cocaine was used, so that nothing can be attributed to the action of that drug.

The author is of the opinion that we ought always to be careful about operating on aged people, and partiularly if arteriosclerosis is present.

VITTUM.

Report of Two Cases of Large Vascular Tumors of the Nose and Pharynx—F. M. Coomes—Louisville Med. Journ., March, 1899.

A report of two cases of large vascular tumors of the nose and pharynx. In view of the severe hemorrhage which developed while operating on the first tumor, the author believes it to be a fibro-angioma, but no histologic examination appears to have been made, and it does not seem to differ in the description from the fibromas in this region in general.

The second is a similar case. No reference is made to recur-

rence, which is characteristic in this form of tumor.

SCHEPPEGRELL.

On the Close Relation between the Nasal and Cranial Cavities as a Cause of Brain Disease—William C. Krause, Buffalo, N. Y.—The American Medical Quarterly, June, 1899.

The author believes the cribriform plate of the ethmoid to be "the ventilator of the brain," and through them there is direct aeration of the brain. Nasal obstruction causes deficient brain

and mental development.

Owing to this naso-cranial alliance, and the nose being such an exposed cavity and a favorable spot for the collection of micro-organisms, infection of the brain may take place this way. This may particularly be true in cerebro-meningitis, where the nasal secretions are found to contain the meningococcus intracellularis. Therefore the nasal secretions of meningitis should be considered infectious.

The moral of the article is in a plea for a more rigid hygiene of the nose.

Nasal Fractures—O. L. SMITH, Chicago—The Clinique, May, 1899.

The immediate replacement of the broken parts by manipulation from within and without, followed by a support of gauze packing, or a nasal splint, should be resorted to.

STEIN.

Chronic Nasal Catarrh—P. I. Leonard—Med. Herald, Vol. xviii, No. 6, June, 1899.

A general review of the present pathology and treatment of nasal catarrh. The author has found vibratory massage thoroughly carried out of great benefit in ozena.

II. MOUTH AND NASO-PHARYNX.

Chronic Pharyngitis—Report of the Royal Academy of Medicine in Ireland—British Med. Journ., May 6, 1899.

Dr. Robert Woods read a paper on chronic pharyngitis and its relation to nasal obstruction, in which he expressed his belief that mouth breathing was the essential cause of chronic simple inflammations of the throat. He reviewed the chief functions of the nose and pointed out how in mouth breathers the disease of the special apparatus for modifying the air, by warming, moistening and filtering from dust must affect the throat injuriously, since the throat was compelled to take on the function of the nose. In support of this contention he quoted an observation he had repeatedly made that in these cases of chronic pharyngitis if the velum palati be lifted the pharynx wall under it will be found normal. In addition to the more familiar forms of nasal obstruction he drew attention to a common condition of the nose when the passage, though free enough in the day time, becomes stopped at This results, apparently, from the difference in level of the head between the upright and horizontal positions, there being less drainage and therefore greater tendency for the congested soft tissues to encroach on the air-space in the horizontal than in the upright. The paper concluded with a short account of the operative nasal treatment for the cure of the condition.

FOXCROFT.

Tonsillar Calculi—Robt. H. Strong—British Medical Journal—May 6, 1899.

A boy, aged 13, while sitting reading, spat up a concretion and a few minutes after spat out another smaller one. Examination showed a depression behind the left pillar of the fauces which had evidently been occupied by the calculi. There was slight hemorrhage but no tenderness. The points to be noted are: (1) The youth of the patient; (2) The absence of noticeable sore throat previous to the discharge of the calculi; (3) The sudden discharge of the concretion without discomfort.

Do the Tonsils Offer an Entrance to Tubercle Bacilli?—Von Schreiber—Deutsche Med. Wochenschr., May 25, 1899.

A most careful and scientific search for tubercle bacilli in the tonsils; the object being to establish the frequency of primary tonsillar tuberculosis. The material obtained consisted of tonsils removed by operations from young persons whom a careful examination showed to be free from tuberculosis. Further, the tonsils from those who died of other diseases or by violence, and in whose case an autopsy showed no tubercular affection. Lastly, the tonsils of persons affected by tuberculosis of varying intensity. Altogether a very large number were subjected to most careful microscopical and bacteriological tests. Of the whole number only three were found where possibly a primary tonsillar tuberculosis was present; and even these cases were not beyond question.

The results seem to indicate that the tonsils are not very frequently the point through which tubercle bacilli gain entrance into the system.

VITTUM.

Rheumatic Tonsillitis—Bertram Abrahams—Report of Clinical Society of London in the *British Medical Journal*, February 4, 1899.

The paper was based mainly on cases observed by the author himself during three years. The bacteriology of many of the cases had also been studied with a view of obtaining some light on the etiology of the disease itself. Details were given of a number of cases illustrating (r) the occurrence of endocarditis after non-scarlatinal tonsillitis without the intervention of arthritis or chorea; (2) tonsillitis immediately followed by a first attack of chorea; (3) repeated attacks of chorea each preceded by tonsillitis; (4) the occurrence of

sore throats at various points in the rheumatic series.

The following conclusions were put forward: I. The more common varieties of rheumatic sore throat fall into two main categories, faucial crythema and tonsillitis proper. 2. Faucial crythema is most common in adults, rheumatic tonsillitis in children, in whom it usually assumes the follicular type, quinsy being more frequent in older subjects. 3. Faucial crythema is an initial manifestation of acute rheumatism, tonsillitis may be the actual primary lesion. 4. Many cases are now definitely on record in which endocarditis has followed a non-scarlatinal tonsillitis unaccompanied by joint pains. In numerous other instances the tonsillitis has immediately preceded an attack of arthritis or of chorea. 5. The presence of the same micro-organisms in the tonsils, joints, blood and urine is evidence in favor of the participation of pyogenic cocci in the etiology of rheumatism.

Unusual Lodgement of a Fish Bone—R. McKinney—Memphis Med. Monthly, March, 1899.

A case of a fish bone which was lodged in the tonsil. It was removed without difficulty.

Scheppegrell.

Two Cases of Congenital Fissure of the Uvula—A. Dworetzky— Zeitschrift fuer Prak. Aerzte, April 15, 1899.

The author reports two cases. In one the division of the uvula was complete from base to apex. In the other the fissure extended 2½ to 3 ctm. upwards from the tip. No symptoms or inconvenience of any kind had been observed, and the malformations were only accidentally discovered.

Complete Adhesion of the Epiglottis to the Base of the Tongue— RISCHAWY—Wiener Klin. Wochenschr., June 1, 1899.

At a meeting of the Vienna Laryngological Society, held April 6th, the author reported a case of the above trouble which occurred as a result of cicatricial contraction after the healing of syphilitic

ulcers. The entire epiglottis was firmly adherent to the tongue, and, in fact, formed a continuation of that organ.

The patient has no trouble in the way of food entering the larynx, although there seems to be a little difficulty in the act of swallowing. The finer sense of taste is somewhat dulled, but this may be attributed to the fact that a part of the gustatory area is covered in by the epiglottis.

III. ACCESSORY SINUSES.

On Empyema of Sinus Frontalis—F. Fehleisen—Pacific Record Med. and Surg., Vol. xiii, No. 11, June, 1899.

Up to the present time the author has operated upon thirty cases. His first cases were operated upon according to the older method of trephining the frontal sinus. The results have not been satisfactory, the wounds healing slowly or not at all. Hence of late years he has followed the advice of Nebinger and Kuhnt and removed the entire anterior wall of the sinus in every case, and in most of them the floor too. In this way the mucous membrane is completely exposed and taken away. The wound heals rapidly, often by first intention, with fair cosmetic effect. The author exhibited two cases.

[This paper was read at the annual meeting of the Western Section of American L., R. and Otol. Society. The two cases were shown. Cure was complete, but the concensus of opinion was that the cosmetic effect was not what the operator claimed, considerable deformity being present.—Ed.]

Case of Double Empyema of the Frontal Sinus with one Infundibulum—W. R. H. Stewart—Lancet, December 10, 1898.

A patient, twenty-nine years of age, consulted the author two years ago for stuffiness of the left side of the nose, with a discharge of some duration, and occasional severe frontal headache. Examination showed polypi with an abundant milky-white discharge on the left side. The right side was apparently normal. There was

no bulging or disfigurement of the face. The radical operation was explained to the patient, who, however, would not have it done, preferring the milder mode of treatment. The polypi were therefore removed, together with the anterior ends of the middle turbinates. A free discharge remained, but all sense of stuffiness and headache disappeared. About eight months ago, however, she wished for the major operation, as the discharge continued so pro-All the symptoms pointing to unilateral disease, the author operated through the brow incision with a small trephine. The bony septum between the sinuses was found to be situated well over to the left side, and was complete with the exception of a small hole posteriorly, through which pus was oozing. The septum was removed, but there was so much granulation tissue in the right sinus that the incision was continued down the ridge, across the top of the nasal bones (taking care to avoid the spot where the spectacleframe might rest), and up the other ridge, and the flap was turned The bone was then chipped away with forceps until there was space enough to thoroughly clear out the right sinus. The reason why there was no discharge into the right side of the nose was then explained, for with the finest probe no sign of an infundibulum could be found on that side. The sinus discharged through the opening at the back of the septum into the left infundibulum. The usual funnel-shaped india-rubber tube was passed through this into the nose, and the wound was closed. The patient did very well.

The points to be noticed in this case are: (1) The absence of the infundibulum on the right side, which led to the belief that the right sinus was healthy and did not need interference, there being sufficient disease on the left side to cause all symptoms; and (2) the amount of room gained, and the very small apparent scar left by the incision, which the author has since employed with success in more than one case of double empyema.

Stclar Thomson.

Orbital Phlegmon Following an Acute Empyema of the Frontal and Ethmoid Sinuses—Ebstein—Wiener Klin. Wochenschr.,

No. 28, 1899.

At a meeting of the Vienna Laryngological Society, the author demonstrated a case of the above trouble.

demonstrated a case of the above trouble.

After an attack of measles there occurred severe pain in the right supra-orbital region. After a two days' fever, pronounced swelling of the right eyelid supervened. The tissues were tense, shining and red, and this condition extended to the inner angle. The eyelid could not be raised. Marked protrusion of the globe was present and intense conjunctival and ciliary injection.

A rhinoscopic examination demonstrated an empyema of the frontal sinus, which was at once irrigated, after removal of the anterior end of the middle turbinal. Great relief followed, but it became evident that the anterior ethmoid cells were also involved. These were opened and the cavities cleared of a large quantity of pus. A marked improvement followed this procedure, and during the next twenty-four hours the vision was restored from one-tenth to normal

Acute Inflammation of the Antrum of Highmore—FOUCHER—
L'Union Mèd. du Canada, March, 1899.

Even in cases where the sinusitis is due to dental caries it is not always necessary to perforate the alveolar process, and some of the cases reported by the author were cured without resorting to this measure. Acute inflammation of the maxillary sinus usually recovers promptly without the intervention of surgical measures, and patients should be spared the annoyance of a perforation of this cavity.

In view of the fact that the author has found a dozen cases of acute inflammation of the maxillary sinus in his private practice in the course of two years, he believes that the assertion of Stirling is true, that this affection is much more frequent than is usually supposed.

SCHEPPEGRELL.

A Contribution to the Study of Antral Disease—J. Dennis Arnold—Pacific Record Med. and Surg., Vol. xiii, No. 11, June, 1899.

The author's paper deserves serious attention. He points out that the relations between the accessory sinuses and the contiguous organs and structures are not well known, though the intimate relation and connection between the frontal sinus and the maxillary antrum was described twenty years ago by Zuckerkandl. He refers to three cases published by Dr. Brophy, of Chicago, of coexisting empyema of these cavities, in which there was discovered intimate communication between them. This led him to examine eighty-four skulls, and he was surprised to find that in thirty-seven of them the frontal sinus opened directly through the infundibulum into the antrum of Highmore.

"It must be borne in mind that the infundibulum, which embraces the opening of the frontal sinus into the nose, is in nearly fifty per cent of all cases a grooved canal with a curvature in the direction of the normal opening of the antrum, and so enclosed by the projecting walls of the middle turbinated bone that it drains directly into the antrum of Highmore. With such relations existing between the two cavities, it becomes very evident that all measures adopted for the treatment of maxillary disease must be nugatory if there exists an implication of the frontal sinus, the morbid secretions of which are constantly draining into the antrum."

The author describes an interesting case of his own, showing connection between disease of the lachrymal sac and antrum empyema. The patient, a woman fifty-seven years of age, was treated by a dentist for left-sided antral disease. A free opening was drilled into the antrum, some diseased bone and polypoid granulations removed with the curette, a gold tube fitted, and irrigation of the cavity with antiseptic and astringent washes instituted. While all pain, swelling and acute symptoms were immediately abolished, a faithful adherence to this treatment for nearly eight months

failed to cure the purulent catarrh of the cavity. Noticing that there was inflammation of the patient's left eye, and that there was an old standing affection of the tear duct, the dentist referred her to the author, who found the sac much relaxed and the lower part of the duct somewhat contracted, but without much trouble passed a Bowman No. 1. But on examining the nose with the probe in situ he was surprised to find it projecting into the latter through the middle meatus and lying upon the superior surface of the inferior turbinated bone. The possible connection between the purulent catarrh of the lachrymal duct and the antrum became apparent. On injecting through the duct a weak solution of permanganate of potash, fully one-third of the fluid promptly entered the antrum and flowed through the tube into the patient's mouth. The cure of the dacryocystitis, which was accomplished after five weeks of treatment, was promptly followed by a cure of the affection of the antrum.

IV. LARYNX AND TRACHEA.

A Case of Epithelioma of the Larynx—J. E. BOYLAN, Cincinnati— Cincinnati Lancet-Clinic, May 20, 1899.

The interesting features of the case are the early involvement of the lymphatics, almost total absence of pain, absence of ulceration. The only symptoms complained of were dyspnæa and violent coughing on any effort to swallow. The patient was fed per rectument a catheter passed through to ut the advantages of feeding through a catheter passed through the nose into the æsophagus. A gastrotomy is often necessary and advisable.

Contribution to the Technique of Extirpation of the Larynx— Dr. Oskar Föderl—Archiv fuer Klin. Chirurgie, Band lviii,

Heft 4, 1899.

Inasmuch as the condition of the patient after extirpation of the larynx is often a deplorable one, the author has been searching for a method which would leave the laryngeal region in a condition more nearly approaching the normal than is usually done. He reports a case and gives cuts of the laryngoscopic picture after the operation. The principal feature of his method consists in strongly drawing up the lower end of the trachea, after the resection, and uniting it to the remnants of laryngeal structure above, using the hyoid bone as an anchorage. This is also done in case every vestige of the larynx is removed.

In the case reported, total extirpation of the larynx was necessary. After some trouble with granulations about the artificial rima glottidis and with stitch abcesses, the final outcome was good. The patient was able to speak without an artificial larynx, and that, too, in a voice which could be heard at a distance of several paces. F. is of the opinion that much better results could be obtained in cases where the epiglottis and the arytenoid folds could be retained. Frequent operations on the cadaver serve to confirm this opinion.

Vocal Resonance-E. M. MAGRUDER-Virginia Med. Semi-Monthly, March 10, 1899.

A clear and concise statement of the various forms of vocal resonance in health and disease, with reference to their value in physical diagnosis. SCHEPPEGRELL.

Intubation in Chronic Laryngeal Stenosis-A. CAHN-Deutsche Med. Wochenschr., May 11, 1899.

At a meeting of the Medical Society of Lower Alsace, held at Strassburg, February 4th, the author stated that in stenoses of nervous origin, particularly bilateral posticus paralysis, tracheotomy is preferable to intubation, for the reason that the trouble is incurable. Among tumors, the benign forms seldom require the adoption of special measures for relief of the stenosis, because an operation for the removal of the tumor usually gives complete relief. In the case of continually recurring papillomata, tracheotomy is preferable to intubation because these tumors only disappear when the larynx has had a complete rest from its functions. In malignant tumors tracheotomy is always preferable.

In tuberculous processes the author endeavors to avoid intubation because he fears that gangrenous processes may be set up in the larynx by the pressure of the tube. Besides, it is very difficult for the patient to bring up the rather abundant secretions through the tube. It is in the syphilitic scleroses that the tube finds its greatest field of usefulness. During the process of healing it is of very great importance to have some firm body within the larvnx to prevent the formation of extreme stenosis by scar tissue.

Bilateral Paralysis of the Laryngeal Abductors successfully treated by the Removal of the Isthmus of a Bronchocele-

SAMUEL LODGE, JR.-Lancet, February 4, 1899.

The patient was a schoolboy, aged fourteen, with a seven years' history of difficulty of breathing. He was found to have double abductor paralysis, which by exclusion was referred to enlargement of the thyroid gland. Iodide of potassium and thyroid extract were both given without affecting the size of the goitre. The isthmus of the thyroid gland was therefore removed. There was no immediate improvement, and even six months afterwards the boy was reported to be in the same condition. Shortly afterwards, however, it was noticed that the stridor during sleep had ceased. The boy was then able to run as well as his schoolmates, and ten months after the operation the larynx was found to be quite normal; the goitre had disappeared, and, in spite of his being a year older, the patient's neck only measured 13 inches, instead of the 14 inches it measured before the operation.

The only case recorded in British medical literature which the author has been able to discover almost corresponding to this one is related shortly in the late Sir Morell Mackenzie's classical work.*

^{* &}quot;Diseases of the Throat and Nose," Vol. i, 1880, p. 444.

The patient, "aged fifteen years-a tall lad-when perfectly quiet could breathe fairly well, but on the slightest exertion he experienced great dyspnea, and during sleep made a loud noise in his breathing. On examining the neck, a moderate-sized but very hard bilateral goitre was perceived, and on using the laryngoscope, the abductors of the vocal cords were found to be paralyzed on both sides. abductors did not seem to be at all affected, and the voice was perfectly normal. By varied treatment extending over several months, the bronchocele was cured and the action of the vocal cords became natural." In this case the isthmus of the thyroid does not appear to have been large. Sir Duncan Gibb was first led to suggest the feasibility of removal of the isthmus by observing "several cases of enlargement of the thyroid gland affecting one or both of the lateral lobes and implicating the isthmus."† In 1870 a post-mortem examination on a young man enabled him to prove that in some cases, "if not relieved by treatment, the lateral lobes, which in their enlargement sometimes spring from the isthmus itself, may extend on either side of the trachea itself and completely encircle it. The consequence of this is that the tube is compressed laterally and its form becomes oval, with a very narrow passage to breathe through, which sooner or later ends fatally." In 1874 Mr. Holthouse operated on two females for Sir Duncan Gibb with the happiest results, In each case the trachea was greatly compressed, and relief was speedily manifested. In 1883 Mr. Sydney Jones reported in the Lancet a case of "enlargement of the thyroid gland in a male producing pressure on the trachea and serious attacks of dyspnea; removal of isthmus; atrophy of lateral lobes; cure."‡ In this case the patient was a laborer, aged eighteen years. The duration of symptoms was for seven or eight years. The patient was quite well in less than two months. Mr. Sydney Jones' brilliant series of cases have shown us that, in the words of Sir William MacCormac, it is "a method of treatment which is comparatively simple, easy of execution, and promises excellent results in suitable cases;" and, further, that where the symptoms are produced by an innocent enlargement of the thyroid without an hypertrophied isthmus, removal of portions of the lateral lobes encroaching mesially on the trachea may be done quite as safely and with the same beneficial results as in thoses cases where the isthmus alone is excised.

In all the cases referred to, the author has been unable to find any reference to laryngoscopical examination. The pressure, judging from the speedily successful results, must have respected the recurrent laryngeals, and the "scabbard-like" condition of the trachea readily accounted for the whole of the dyspnea, whereas in this case six months had elapsed before the patient was obviously much better. Nor could we reasonably have expected more speedy results, seeing that laryngoscopically the dyspnea could be readily explained by pressure on the recurrent laryngeals producing the abductor palsy.

Stclair Thomson.

[†] The Lancet, January 23, 1875, p. 120.

The Lancet, November 4, 1883, p. 900.

Pott's Disease: Death Caused by an Abscess in the Thorax—

WHITMAN-Amer. Practitioner and News, February, 1899.

A boy of four years, with an angular projection of the fourth dorsal vertebra, suffered from paroxysmal dyspnea. In spite of treatment the patient died suddenly. The autopsy showed a dense fluctuating tumor the size of a large hen's egg between the esophagus and the anterior longitudinal ligament, on a level with the upper border of the third dorsal vertebra. SCHEPPEGRELL.

Broncho-Pneumonia from the Inhalation of a Foreign Body—H.

MORELL-N. Y. Med. Journal, March 11, 1899.

A child of eight months inhaled a peanut. It became cyanotic with increased rapidity of respiration, and within 24 hours had the first symptoms of broncho-pneumonia. After three or four days the symptoms subsided, but the left side of the chest did not clear up. Six weeks later the peanut was expelled during a paroxysm of coughing and vomiting, and the child made a rapid recovery. SCHEPPEGRELL.

Uric Acid as a Cause of Asthma-L. H. Watson-Southern Med.

Record, February, 1899.

The author favors the theory advocated by Haig and others that asthma represents the effects of uric acid on the circulation in the thorax, and that it is paroxysmal for the same reason that epilepsy and migraine are so, in accordance with the natural fluctuation of the uric acid and the amount of substance passing through the circulation. He quotes a case cured and another improved by treatment based on this theory. SCHEPPEGRELL,

On the Treatment of Tracheal Stenosis-Schulz-Berl. Klin. Wochenschr., No. 29, 1899.

This interesting paper is taken up in describing in detail the treatment and progress of a case of tracheal stenosis which occurred eleven years after a tracheotomy. The means which led to a dilatation were the use of catheters at first, and afterwards of silver spiral tubes made for the case. Under the continued use of these instruments the opening has become twice as large as when the patient first presented himself for treatment, and all symptoms of dyspnea have disappeared.

Strictures of the Esophagus and Cardia—Lambotte—Presse Med., February 11, 1899.

The methods in vogue resolve themselves into catheterism, intubation and gastrotomy. Catheterism is not a prudent measure, as it is painful, ineffective and may cause perforation at any time. Intubation by means of a rubber or metal sound large enough to allow the passage of food and introduced from above with esophageal forceps, or upward from the stomach, is more rational.

Report of Cases Treated with Paquin's Antitubercle Serum—J.

R. Bridges-Charlotte Med. Journ., March, 1899.

A report of four cases with apparently good results. The author, however, believes very properly that hygienic, sanitary and dietetic measures should not be neglected, and he even recommends the internal administration of cod-liver oil and creosote.

SCHEPPEGRELL

Cartridge in Right Bronchus—W. A. Moffatt—British Medical Journal, March 4, 1899.

C. K., aged seven, was admitted for slight dyspnea and cough. Eight days previously he had been throwing up a pistol cartridge and catching it in his mouth, when he fell just as the cartridge got into his mouth.

With the X-rays and screen a foreign body was seen to the right

of the spine.

A low tracheotomy having been performed the cartridge was felt by the aid of a stout piece of silver wire in the right bronchus and was removed with a pair of nasal polypus forceps having a crocodile mouth. Patient made a good recovery, and when discharged from the hospital, breath, sounds and resonance were normal.

FOXCROFT.

Report of a Case of Accidental Swallowing of a Brass Wire, and its Spontaneous Escape from the Stomach through the Ninth Intercostal Space—W. J. Gillette—N. Y. Med. Journ., March 25, 1899.

While a physician was swabbing his own throat with a probang of brass wire, six inches in length, it accidentally slipped out of his fingers and passed into the esophagus. As it gave rise to no disturbance, no attempt at removal was made. Three months later the patient began to have distress in the epigastrium, and a month later the end of the probang was found protruding from under the skin in the ninth intercostal space near the costal cartilages. It was removed with forceps, the patient making a good recovery.

SCHEPPEGRELL.

V. EAR.

Physiology of the Auditory Organ—Dr. Gustav Zimmermann— Muenchener Med. Wochenschr. May 9, 1899.

In this paper the author advances a theory as to the functions of the drum membrane and the ossicles. His argument against the old and generally accepted theory of Helmholtz is, first that extensive destruction or thickening of the drum membrane often seems to cause only a very slight diminution of hearing. The malleus and incus may be removed at times with positive benefit; and even the loss of the stapes does not necessarily mean deafness, provided that no labyrinthine or nervous disease is present.

Furthermore, Helmholtz's view demands that each terminal fibre of the acoustic nerve shall correspond with a hair-cell. This is disproved by modern histology. Again, by no means within our reach is it possible to demonstrate the vibration of the drum membrane as a whole during the act of hearing. In fact it seems impossible that such should be the case, except in some very low tones where the sound waves are far apart. Another objection is that the little striated muscles attached to the malleus and stapes must forever be in action both day and night, if the chain of ossicles is really thrown into sympathetic vibration by the sound waves. Z. casts to the winds utterly the idea that the drumhead and the chain of ossicles are to be considered as a conducting apparatus, and considers them as a beautiful device for regulating the intralabyrinthine pressure. The fenestrum rotundum, with its elastic membrana secundaria, is to be considered as a sort of escape valve for the labyrinthine fluid under conditions of high momentary pressure. The fenestrum ovale, on the other hand, serves as an opening through which the plate of the stapes may bring pressure to bear on the same fluid. Now if a sudden and severe concussion takes place, the tensor draws the stapes markedly inward so that the labyrinthine fluid is under high pressure and incapable of conveying those extreme vibrations which would shatter the delicate structures of the internal ear as with a blow. In other words, the ear is for the moment perfectly deaf, and this reflex action of the ear has saved it from destruction. In case the stapes is not drawn inward to its fullest extent then the intra-labyrinthine pressure is not so great and the sound-perceiving fibres are not rendered incapable of all vibrations but are only dulled in this activity. This is of importance in the matter of those tones which are caused by sound waves which are relatively far apart—low tones. If this apparatus were not provided, we should, in the case of these low tones, have a prolongation of the tone perception and consequently confusion and the perception merely of a noise.

After giving his explanation of the Webber and Rinne experi-

ments, the author draws the following conclusions:

1. The drum membrane and the chain of ossicles in conducting

sound are subjected only to molecular vibration.

The drum membrane and the chain of ossicles act as a beautiful reflex regulator; while the fenestrum rotundum acts as an automatic valve.

There is only one form of sound conduction to the labyrinth bone conduction. This may be direct from the source of the sound (tuning fork), or indirect through an interposed medium (column of air).

Influenza and Otitis Media-F. ASHTON WERNER-British Medical Journal-May 13, 1899.

The importance of blood letting, by leeches to the affected part, is emphasized in the treatment of middle-ear trouble complicating influenza together with hot boracic fermentation.

Cotton Ear Drum in Suppurative Cases—D. B. HASELTINE, Chicago—The Clinique, May, 1899.

The author has found the cotton ear drum useful in a number of cases, both as a mechanical device to improve the hearing and as a stimulant to the regeneration of the perforated drum membrane.

In a case of twelve months' standing, with a perforation involving one-third of the drumhead, complete closure followed at the

end of three weeks, with a hearing of #6 for the watch.

In a case of thirty years' standing, with entire loss of membrane on one side, but the ossicles still in position, immediate improvement in the hearing followed the placing of a cotton pad. But, although complete reformation of the membrane took place, it was not permanent.

Treatment of Acute Otitis Media Following Influenza—Theobald

-Va. Med. Semi-Monthly, March 24, 1899.

In the early stage when the pain is pronounced, atropia and cocaine are used externally, and one grain of atropia sulphate and two grains of cocaine muriate in two drams of distilled water are used, eight drops being poured into the ear three or four times per day. More recently an oily solution of the alkaloids of atropia and cocaine were found more useful. He sometimes found this efficient when others would have resorted to myringotomy. When an incision is indicated, it should be made freely, beginning with the upper posterior border and carrying it down parallel with the posterior line.

SCHEPPEGRELL.

Otology and Rhino-Laryngology Up-to-Date—B. F. Church— South. Cal. Pract., Vol. xiv, No. 6, June, 1899.

A review of advances in these departments. Among others the author mentions the microscopical examination of the discharge of otorrhea for streptococci as an aid to prognosis; the abandoning, to a great extent of intratympanic operations in chronic non-suppurative otitis media; the reaction against the use of the galvanocautery in the nose; the connection of the anterior ethmoid cells and the frontal sinus with the antrum of Highmore; the use of steam for empyema of the frontal sinus, and the use of a weak solution of formalin in tuberculous laryngitis.

Chronic Middle-Ear Suppuration with Permanent Retroauricular Opening—E. B. GLEASON—Journ. Am. Med. Assn., June 10, 1899.

Two cases of operation by Passow's method are presented. The advantages claimed are that the middle ear becomes a "skin-lined, non-secreting" cavity. The permanent retroauricular opening allows free access of air to the middle ear and greatly facilitates cleansing the cavity when necessary.

Andrews.

Progress in Otology—T. MELVILLE HARDIE—Journal American Medical Association, June 3, 1899.

In reviewing the progress in otology the writer gives a short account of the early history of otology in America, and mentions many recent books on the different branches of the subject. Considerable activity on the part of American otologists is noted.

ANDERWS

"Deaf Mutes," with Clinic-Maury M. Stapler, Macon, Ga,-Journal Am. Med. Assoc., May 27, 1899.

A case of congenital narrowing of the pharyngeal opening of the Eustachian tubes, in a lad of eighteen years; showing aerial conduction negative as to the right ear, but "he could hear very loud tones thrown from a near point directly into the left ear." Bone conduction was unimpaired. Hearing has improved to four to six inches for the watch. He can hear ordinary conversation and use the telephone; can count and knows denominations of money. Treatment consisted in the electro-cauterization of the anterior margin of the pharyngeal mouth of the Eustachian tubes, thereby causing cicatricial contraction of the mucous lining, and also shortening some fibres of the tensor palati.

Marriage Among the Deaf-American Annals of the Deaf.

An editorial in *The Journal of the American Medical Association* of June 24, 1899, quoting *The American Annals of the Deaf*, says that marriage among the deaf is greatly increasing. There is a tendency on the part of the deaf to marry one another rather than hearing persons.

A smaller percentage of marriages result in deaf offspring when

both parents are deaf than when only one is deaf.

Further observation and more statistics will be necessary before statements like the last can be fully authenticated. Andrews.

Bilateral Deafness in Connection with Paralysis of the Palate-

ALFRED BRUCK-Berliner Klin. Wochenschr., May 29, 1899.

At a meeting of the Berlin Medical Society, held May 3, the author presented a patient who became rather suddenly deaf about three months before. An examination revealed an exudative middle ear catarrh. During the examination the author noticed a peculiar nasal twang to the voice and on investigation found a paralysis of the soft palate. The deafness and the change in the voice were stated to have begun at about the same time. The author thinks that the paralysis of the palate was the cause of the ear trouble. The palatal muscles, one of whose functions it is to open and close the tube, being paralysed, a condition of negative pressure was developed, followed by a hydrops ex vacuo.

VITTUM.

Uncommon Cases of Operation on the Brain—JAMES NICOLL— Lancet, October 29, 1898.

One of these cases is interesting as showing the origin of a malignant tumor in the middle ear. The symptoms simulated temporo-sphenoidal abscess. An intracranial portion of the tumor was removed, with relief to the pressure symptoms. The patient died two and a half months afterwards.

STCLAIR THOMSON.

A Case of Mastoid Suppuration with Hyperperexia and Jaundice; Operation; Recovery—T. HARRISON BUTLER—British Medical Journal, May 13, 1899.

Patient, a girl, aged eleven, had been playing in the hot sun, the day previously had had an attack of vomiting, and a week previously had a fall on the head. Her temperature was 108°, pulse 180 and very feeble but regular. There was no loss of consciousness, she complained of headache. There was marked tenderness over the left mastoid and along the whole course of the internal jugular vein. There was pus in the left external meatus which was not offensive. The antrum was opened and a pin connection made with the middle ear, a drop of pus being found in the antrum. Exploration of the lateral sinus showed contents normal. The wound was irrigated with binoxide of mercury solution, 1 in 2000, and plugged with 20 per cent iodoform gauze. The day after the operation the temperature was 99.4° but rose in the evening to 108°, an hour later it dropped to 100.2°. The next day the temperature again rose to 107.2°, but fell and remained normal, with the exception of one rise to 105° the following day, for the remainder of the convalescence. There were no rigors, nor vomiting, nor cerebral symptoms. The spleen was enlarged and patient was jaundiced for a few days.

The case offers many difficulties and unusual points. The thermometer used was tested with a Kew-certified instrument and found to be accurate. The question arises how far the temperature was influenced by exposure of the patient to a semi-tropical sun and how far it was due to absorption of septic products. The absence of rigors and sweating, and the complete recovery seem to be negative to the view that there was general septic infection in spite of the fact that the spleen was enlarged and that jaundice occurred. The case is interesting as showing that marked jugular tension may exist in mastoid cases though the lateral sinus be quite normal. The absence of cerebral symptoms formed a marked feature of the case. It must not be forgotten that in South Africa temperatures run higher than they do at home without the same significance.

VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

Differential Diagnosis and Treatment of Diphtheria-IAS. P. COBB-The Clinique, June 15, 1899.

Bacteriological examination should be made in connection with the clinical examination. This examination should be repeated if the first test does not reveal the specific bacillus. In the writer's experience no second attack of diphtheria had occurred in persons who had undoubted diphtheria.

The symptoms are given at length, but nothing new is added. In treatment, antitoxine and alcohol hold first place. Antitoxine should be given early, the use of it after the completion of the third day being unsafe.

Observations on the Use of Antitoxin in the Treatment of Diphtheria, Based on Experience with Sixty-nine Cases-

M. A. Albe, Cleveland, Ohio-The Cleveland Medical Gazette, June, 1899.

The author arrives at the opinion that every suspicious case of sore throat should receive an injection of antitoxin at once, and make the bacteriological examination afterwards. Most all cases are of mixed infection. A child of one year can stand as much antitoxin as a child of ten, conditions being equal.

Of these sixty-nine cases treated, all but seven recovered, these died. Two received three injections of 1,000 units each, every six hours, until effect was obtained.

Six received two injections of 1,000 units each, every six hours.

Eight received 1,500 units at first injection.

Six received a single injection of 1,000 units.

The disease in all cases was controlled within twenty-four hours. Five required intubation and all recovered.

In addition to the antitoxin some general and local treatment was

The Essential Points in the Treatment of Diphtheria-JAS. G.

BRUBAKER-Med. Age, June 25, 1899.

The antitoxine treatment is unqualifiedly indorsed. The serum should be used early for protection and treatment in doses ranging from 200 to 2,000 units. The dose should be repeated in 24 to 48 hours, if indicated. Antiseptic, non-irritating mouth and throat washes, such as Löffler's solution, should be used, and mercurials and tincture of iron should be given internally. Alcohol is to be given freely. Inhalations of steam are of value if the larynx is invaded. No effort should be made to detach the membrane. When preparing for intubation also prepare for tracheotomy, as the tube may detach the membrane. The membrane may invade the bronchi and cause failure of the operation. The same treatment should be followed in clinical diphtheria though the specific bacillus cannot be found. DETWILER.

The Clinical Application of the Bacteriology of Diphtheria-W.

H. WILSON-The Clinique, June 15, 1899.

The writer divides cases of sore throat into staphylo-angina, strepto-angina and Klebs-Löffler-angina, determining the nature of the affliction by the bacteriological examination of the germs present. Bacteriological examination is necessary because of the clinical symptoms in common produced by the various pathogenic germs.

Antitoxine is of value in true diphtheria, Klebs-Löffler angina, but of no service in diphtheroid cases.

Detwiler.

The Diphtheritic Bacillus—Its Persistence in Mouths of Convalescents—H. L. Russell—Journ. Am. Med. Assn., June 24, 1899.

Three cases are reported in which frequent examinations were made, and virulent bacilli were found from two to four months after the attacks of diphtheria. The importance of bacteriological examination of convalescents is emphasized.

The author believes that the persistence of virulent bacilli in the throats of convalescents is the cause of many of the so-called sporadic outbreaks of diphtheria.

Andrews.

Diphtheria and Intubation—C. C. Furley.—Kan. City Med. Index-Lancet, Vol. xx, No. 235, July, 1899.

The writer maintains that tracheotomy is the proper operation in those cases formerly known as membranous croup, and that intubation is more apt to aggravate than cure that class of cases where the inflammation extends to all parts of the bronchial ramifications and the stenosis does not exist in the trachea alone.

EATON.

A Year's Work in Intubation—C. W. RICHARDSON—The National Medical Review, June, 1899.

A tabulated report of thirty-one cases of laryngeal, and laryngeal and pharyngeal, diphtheria requiring intubation is given. The Klebs-Löffler bacilli were present in all cases, and the stenosis was severe in all cases but two. Seven deaths occurred, a mor-

tality of 22 per cent.

One of the cases that recovered had been intubated eighteen months prior for diphtheria, which would tend to show that one attack does not confer immunity as some hold. Antitoxine was used in connection with intubation in these cases, and the writer expressed the belief that when such treatment is given a resort to tracheotomy will not be needed. The dose of antitoxine should be from 2,500 to 3,000 units for children over two years of age, and for those under that age from 1,500 to 2,000 units should be given.

He found most difficulty in intubating children between eighteen and thirty-six months of age, but could assign no reason for this. In these cases the tube is allowed to remain until the fifth or sixth day. The paper was discussed at length.

Detwiler.

Some Experiences with Intubation—F. E. Sampson—Med. Herald, Vol. xviii, No. 6, June, 1899.

The author relates in graphic style some accidents and vicissitudes in the performance of intubation. Experience has taught him that exhausted, nearly moribund patients are best intubated in the prone position. Resistance, also, on the part of the patient may play a prominent part, as also the irritation of the fauces incident to the introduction of the tube. Leonard has found the operation quite as easy with the patient on a couch or low bed as in the usual position.

He inclines to the opinion that in cases so far gone as to be unconscious, tracheotomy should be done at once without losing any time on intubation, as the rather free bleeding incident to a rapid tracheotomy is surely no disadvantage to the distended heart. When breathing is well established, the trachea and bronchi well cleared, intubation may be done and the tracheotomy wound closed. The author closes with the statement that it is his conviction that the technique of intubation should be a part of the training of every physician. Within the past three years there have been to his knowledge in the country and towns adjacent to Creston, Iowa, eight deaths from laryngeal diphtheria where intubation was not done because the services of an intubationist were not available.

EATON.

Membranous Croup (so-called) and Diphtheria—I. A. McSwain — Charlotte Med. Journ., March, 1899.

Diphtheria and membranous croup should be regarded as identical. Antitoxin is a rational, scientific and indispensable remedy, and should be administered early and in full doses.

SCHEPPEGRELL.

Differential Diagnosis of Diphtheria from Membranous Croup— T. T. Ferree—Charlotte Med. Journ., March, 1899.

The author appears to believe that the severity of the disease is the important factor in the differentiation. He makes no reference to the bacteriology of the subject.

SCHEPPEGRELL.

Surgical Intervention in Basedow's Disease—P. J. Möbius—Presse Méd., March 4, 1899.

Six cases of Basedow's disease were cured and four improved by extensive and total resection of the three ganglia of the cervical sympathetic on both sides. This operation is especially effective in the primary form of Basedow's disease, but less satisfactory in the secondary. The resulting improvement is usually very slow.

SCHEPPEGRELL.

Diphtheria—L. R. Sellers—West. Med. Journ., Vol. xi, No. 5, May, 1899.

Contains nothing new.

EATON.

Diphtheria Antitoxin in Private Practice—E. C. Bousfield—

Lancet, December 10, 1898.

This is an earnest appeal to use antitoxin immediately in every clear or doubtful case of diphtheria, as the author feels assured that in no other way is it possible to seriously diminish the mortality. Even the delay of sending the cases into hospital, before administering the serum, leads to a decided increase in the mortality.

STCLAIR THOMSON.

A Peculiar Case of Post-Diphtheritic Cicatrization—Alfred Bruck—Berl. Klin. Wochenschr., No. 31, 1899.

The case in question seemed to present a complete absence of the right posterior pillar of the soft palate. A careful examination revealed an extensive cicatricial condition of the whole post-nasal This had resulted in almost complete obstruction of both choanæ, to a partial adhesion of the soft palate to the posterior pharyngeal wall. The membranes closing the choanæ did not reach quite to the lower border and communication between the nose and throat was permitted by small round openings, of which one was situated in the right choana, while the left possessed two. This explains why the patient was able to breathe more freely through the left nostril than through the right. There was marked atrophy of the pharyngeal mucous membranes and polyps in the right nostril, plainly the result of the continued irritation. The ears, too, were affected, the Eustachian openings being drawn into the cicatricial mass. The drumheads thick, strongly retracted and injected. Finally, the apparent absence of the posterior pillar is intimately connected with this general cicatrization. In regard to the cause: syphilis could be absolutely excluded. The patient at the age of three years had had an attack of what was probably diphtheria. Here is apparently the cause; for while such cases of cicatrization are somewhat rare, they are by no means unheard of, and the author cites instances from the practice of Krause, Heymann, Gerber, Flieschmann and Borchard.

Tumors of Esophagus-Report of Liverpool Medical Society in

British Medical Journal, February 4, 1899.

Dr. Permewan described two cases of tumors of the esophagus which he had removed by subhyoid pharyngotomy. The first case, in which the growth was benign, died from the immediate effects of the operation; the second recovered. Dr. Permewan stated that the conclusions he had arrived at with regard to this operation were (1) that subhyoid pharyngotomy was justifiable in spite of the large percentage of cases in which death occurred after this operation; that it was admirably adapted for the removal of growths from the lower pharynx, upper part of the esophagus and also from the upper aperture of the larynx. As a preliminary to resection of the larynx it was valuable, giving a more complete view than that obtained by thyrotomy; (3) that to ensure a safe operation a preliminary tracheotomy was necessary; (4) that no attempt should be made to close the wound after operation, but that it should be plugged with gauze and allowed to granulate; (5) that feeding should be by the esopha-FOXCROFT. geal tube exclusively.

VII. INSTRUMENTS AND THERAPY.

A New Intubation Instrument—Charles J. Whalen, Chicago— Journ. Am. Med. Assn., June 24, 1899.

The instrument as illustrated combines the introducer and extractor in one instrument. It is similar in principle to the French intubation instrument, but has longer blades for holding the tube and has a greater curve, the better to enable the operator to insert the instrument in extracting the tube.

Andrews.

The Uses and Abuses of Cocaine—Editorial.—Tex. Medical News, February, 1899.

A review of the therapeutic value of cocaine and some of the effects of its abuse.

[The author concludes, however, by giving a formula for the use of cocaine in cases of hay fever, which, if placed in the hands of the patient, would certainly tend to increase the cases in which this useful but dangerous drug is abused. Many of the most severe cases of cocainismus owe their origin to a prescription of this kind.—S.]

Extract of Supra-Renal Capsule—J. C. Connell.—Kingston Medical Quarterty, Vol. iii, No. 4.

Taking gr. v of Armour's desiccated extract to each drachm of water, the solution is well shaken and allowed to stand for ten minutes and then filtered three times. Decomposition is retarded by adding 25 per cent of glycerine, but the activity of the drug is weakened thereby. Its use renders nasal operations almost bloodless, and is recommended for the relief of congestive conditions in the pharynx and larynx.

GIBB WISHART.

The Modern Treatment of Diseases of the Nose—A. H. Herzog— Int. Journ. Surg., Vol. xii, No. 6, June, 1899.

This paper is mainly a statement of the medical treatment of nasal catarrh now in vogue. The advice of the author to use nitrate of silver, and the nasal douche (by the patient), is not modern treatment.

His proposition also, to "seize a hypertrophied turbinated bone by means of a polypus forceps, and to remove the obstruction in this way by breaking or tearing it away," is, in the abstractor's opinion brutal and unsurgical.

On the Treatment of Tonsillitis—J. E. Kempf—Louisville Med. Journ., March, 1899.

To a pint of freshly prepared chlorine water a dram to an ounce of muriated tincture of iron is added. This is used locally by means of an atomizer, and, internally, a teaspoonful every two or four hours. The author has had good results from this form of treatment.

SCHEPPEGRELL.

Dry Bronchitis with Paroxysmal Dyspnea—Ex.—Riforma Medica, February, 1899.

The following is recommended:

R.	Alcoholic sol. of nitroglycerin (1 per cent)
	Alcoholic nitrate ether
	Sol. chloroform in alcohol (10 per cent)
	Dist. water
	Scurppeope

The Medical Efficacy of Nosophen and Antinosine in Eye, Ear, Nose and Throat Affections—J. A. Lydston—Denver Med. Times, Vol. xix, No. 1, July, 1899.

The general excellencies and convenience for use of the two substances are described, as well as their chemical, and antiseptic qualities. Cases are described illustrating their use in mastoid disease, and it is claimed that catarrhal cases of the nose and throat have in many cases yielded to insufflations of nosophen, and irrigations with aqueous solutions of antinosine.

The Therapeutical Value of Paraldehyde—John V. Shoemaker— Merck's Archives, May, 1899.

Paraldehyde is eliminated largely by the lungs, imparting a characteristic odor to the breath. Its antiseptic local effect upon the cells of the lungs and the mucous membrane of the bronchial tubes is advantageous, as it changes the quality of the inflammatory products and secretions and diminishes their amount.

Paraldehyde produces sleep without any injurious aftereffects. It diminishes dyspnea and tranquilizes respiration and cough, being particularly useful in the insomnia and cough of pulmonary tuberculosis. In spasmodic asthma the attacks can be prevented or mitigated by it. In the latter disease the patient should have a dose of the drug as soon as he feels an attack coming on. The dose is from twenty drops to one dram.

The maximum dose may usually be given safely twice a day.

[IEFFERS.]

On the Use of Rubber Splints in the Treatment following Intra-Nasal Operations—J. PRICE BROWN—Canadian Practitioner, Vol. xxv, No. 7.

Catarrhal difficulties caused by obstruction will be in a great measure removed if only a clear open chink be made wide enough to prevent accumulations of mucus between the turbinates and the septum without resorting to fracturing or straightening the septum itself. The writer has found it difficult to procure smooth equable pressure upon the necrosed tissues during the process of healing after the removal of spurs. The use of rubber splints made from thick rubber sheeting, cut to any size and thickness, is advocated when the chisel is a narrow one. These splints prevent granulations, and mould the tissues into a smooth and regular form. These splints should not be perforated, as they would fail to exercise equable pressure and would fail to be aseptic.

Reports are given of five cases treated in this way.

GIBB WISHART.

BOOK REVIEWS.

An Inquiry Concerning the Results of Marriages of the Deaf in America. By Edward Allen Fay, Vice-President and Professor of Languages in Gallaudet College, Editor of the American Annals of the Deaf. Preface by John Hitz, Esq., Superintendent of the Volta Bureau. Octavo, pp. 530, cloth. Published by the Volta Bureau, Washington, D. C., 1899.

This volume contains a statistical collection and tabular statement of marriages of the deaf in America, and includes a consideration of the following questions which are of especial interest and importance to the deaf as a

class, and to the profession who come in contact with this class of patients:

1. Are marriages of deaf persons more liable to result in deaf offspring than ordinary marriages?

2. Are marriages in which both of the partners are deaf more liable to result in deaf offspring than marriages in which one of the partners is deaf and the other is a hearing person? 3. Are certain classes of the deaf, however they may marry, more liable than others to have deaf children? If so, how are these classes composed, and what are the conditions that increase or diminish this liability?

Aside from the question of the liability of the offspring to deafness, are marriages in which both of the partners are deaf more likely to result happily than marriages in which one of the partners is deaf and the other is a

hearing person?

"These questions have been much discussed both at home and abroad, and the conclusions reached differ widely. Some writers maintain that marriages of the deaf are far more liable to result in deaf offspring than ordinary marriages, and that this liability is greatly increased when both of the partners in marriages are deaf; others maintain that such marriages are but little more liable to result in deaf offspring than ordinary marriages, and others that they are not at all more liable."

All of these conclusions are set forth in detail, together with the statistics bearing on the subject, and the material collected for the publication of this volume may be considered of inestimable value to the deaf, to science, and to the community at large.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. F. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology, Jefferson Medical College, etc., etc. Third edition, thoroughly revised; 696 pages with 255 illustrations and two chromo-lithographic plates. W. B. Saunders, Philadelphia.

The revised and enlarged edition of this popular work is destined to receive the favorable consideration of both practitioners and students, as it is thoroughly scientific and up-to-date. A discussion of the general principles of optics, methods of examination, instrumentation and refraction is followed by consideration of diseases of the ocular appendages, the eyeball and orbit in a logical order—special attention being paid to the relation of micro-organisms to ocular disorders—the volume closing with a well-written chapter on operative procedure and an appendix on the use of the ophthalmometer and trapometer.

The Mechanics of Surgery. Comprising detailed descriptions, illustrations and lists of the instruments, appliances and furniture necessary in modern surgical art. By Chas. Truax, Chicago. Octavo, 1,024 pp., 1899.

This unique volume is a new departure in medical publications. It embodies a description together with illustrations of the most important and most popular instruments used in every field of surgical science, and the author from his association with the manufacturer of the surgical instruments and appliances, his extensive acquaintance with the medical profession and attendance at clinics in many parts of the world, seems specially qualified to place such a volume before the medical profession.

It will be found a valuable reference volume of its kind and offers a vast store of information to even the most progressive members of the profession. ore of information to even the most progressive members of the pro-It brings the manufacturer of surgical appliances to the notice of the pro-G.

fession in a distinctly ethical and genteel manner.

